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ABSTRACT

These three volumes comprise the background publication of the second report on vocational education and training (VET) research in Europe. The two parts of Volume 1 contain 10 papers; Volume 2 contains 11 papers in two parts; and there are 10 papers in the two parts and annex of Volume 3. In Volume 1 are the following: "Steering, Networking, and Profiles of Professionals in VET" (Lassnigg); "Financing VET" (Green et al.); "How to Improve the Standing of Vocational Compared to General Education" (Lasonen, Manning); "Certification and Legibility of Competence" (Bouder et al.); "Changing Institutional and Political Role of Nonformal Learning" (Bjornavold); "Problems Raised by the Changing Role of Trainers in a European Context" (Brugia, de Blignieres); "Lifelong Learning" (Cheallaigh); "Training for New Jobs" (Onstenk); "Vocational Training and Innovative Practices in the Environmental Sector" (Loos); and "Company-Based Learning in the Context of New Forms of Learning and Differentiated Training Paths" (Dehnbostel, Dybowski). Volume 2 contains these papers: "Globalization, Division of Labor, and Training Needs from a Company View" (Dejonckheere, Van Hootegem); "Training, Mobility, and Regulation of the Wage Relationship" (Hanchane); "Employment and Training Practices of Small and Medium-Sized Enterprises" (Trouve); "Human Resource Development in Europe" (Nyhan); "Reporting on Human Capital" (Westphalen); "Vocational Training Research on the Basis of

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Enterprise Surveys" (Bellmann); "Skills Market" (Planas et al.); "Economic Performance of Education and Training" (Barrett); "Unemployment and Skills from a Dynamic Perspective" (Bollens); "Overqualification" (Buchel); and "Forecasting Skill Requirements at National and Company Levels" (Wilson). Volume 3 and its Annex contain these papers: "Training and Individual Performance" (Pfeiffer); "Effect of National Institutional Differences on Education/Training to Work Transitions in Europe" (Hannan et al.); "Education and Labor Market Change" (Hannan, Werquin); "Selection, Social Exclusion, and Training Offers for Target Groups" (Vranken, Frans); "Training and Employment Perspectives for Lower Qualified People" (Brandsma); "Research on VET at the Crossroads of Transition in Central and Eastern Europe" (Strietska-Ilina); "VET Research in Other European and Non-European Countries" (Lauterbach et al.); "Research on VET in the Current Research Framework of the European Commission" (Van den Brande); "Synopsis of Selected VET-Related Projects Undertaken in the Framework of the Leonardo da Vinci I Program"; and "Targeted Socioeconomic Research." (YLB)

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Pascaline Descy and Manfred Tessaring, Editors

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Training in Europe

Second report on vocational training research in Europe 2000: background report

Volume 1

Pascaline Descy, Manfred Tessaring (eds.)

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Volume 1

Preface 5

Part one: VET systems, coordination with the labour market and steering

Steering, networking, and profiles of professionals in vocational education and training (VET)
Lorenz Lassnigg 11

Financing vocational education and training
Andy Green, Ann Hodgson, Akiko Sakamoto, Ken Spours 71

How to improve the standing of vocational compared to g neral education
A collaborative investigation of strategies and qualifications across Europe
Johanna Lasonen, Sabine Manning 115

Certification and legibility of competence
Annie Bouder, Laurence Coutrot, Édith Kirsch, Jean-Louis Kirsch, Josiane Paddeu, Alain Savoyant, Emmanuel Sulzer 169

The changing institutional and political role of non-formal learning: European trends
Jens Bjørnåvold 213

The problems raised by the changing role of trainers in a European context
Mara Brugia, Anne de Blignières 253

Part two: Lifelong learning and competences: challenges and reforms

Lifelong learning – How the paradigm has changed in the 1990s
Martina Ní Cheallaigh 265

Training for new jobs: contents and pilot projects
Jeroen Onstenk 319

Vocational training and innovative practices in the environmental sector
A comparison of five EU Member States, with specimen cases
Roland Loos 357

Company-based learning in the context of new forms of learning and differentiated training paths
Peter Dehnbostel, Gisela Dybowski 391

Volume 2

Part three: Training and employment in a company perspective

Globalisation, division of labour and training needs from a company view
Johan Dejonckheere, Geert Van Hootegem 7

Training, mobility and regulation of the wage relationship: specific and transversal forms
Saïd Hanchane (With the assistance of Philippe Méhaut) 45

The employment and training practices of SMEs Examination of research in five EU Member States
Philippe Trouvé (With the collaboration of: Elyes Bentabet, Bruno Courault, Mary Creagh, Clémence Millière, Joseph Reindl, Markus Fecht, Hartmut Reineke) 91

Human resource development in Europe – at the crossroads
Barry Nyhan 233

Reporting on human capital; objectives and trends
Sven-Age Westphalen 249

Vocational training research on the basis of enterprise surveys: An international perspective
Lutz Bellmann 279

Part four: Employment, economic performance and skill mismatch

The skills market: dynamics and regulation
Jordi Planas, Jean François Giret, Guillem Sala, Jean Vincens 313

Economic performance of education and training: costs and benefits
Alan Barrett 383

Unemployment and skills from a dynamic perspective
Joost Bollens 405

Overqualification: reasons, measurement issues and typological affinity to unemployment
Felix Büchel 453

Forecasting skill requirements at national and company levels
Rob A. Wilson 561

Volume 3

Part five: Individual performance, transition to active life and social exclusion

Training and individual performance: evidence from microeconometric studies
Friedhelm Pfeiffer 7

The effect of national institutional differences on education/training to work transitions in Europe: a comparative research project (CATEWE) under the TSER programme
Damian F. Hannan et al. 43

Education and labour market change: The dynamics of education to work transitions in Europe
A review of the TSER Programme
Damian F. Hannan, Patrick Werquin 91

Selection, social exclusion and training offers for target groups
Jan Vranken, Mieke Frans 137

Training and employment perspectives for lower qualified people
Jittie Brandsma 173

Part six: VET research activities outside the European Union

Research on vocational education and training at the crossroads of transition in Central and Eastern Europe
Olga Strietska-Ilina 209

VET research in other European and non-European countries
Uwe Lauterbach et al. 319

Annex: VET related research on behalf of the European Commission

Research on vocational education and training in the current research framework of the European Commission
Lieve Van den Brande 377

Synopsis of selected VET related projects undertaken in the framework of the Leonardo da Vinci I programme 387

Targeted socio-economic research (TSER)
Project synopses 427

Preface

Research on vocational education and training (VET) strives to produce reliable information and knowledge on the processes, influences on and impact of training in social and economic fields. It is a pre-condition for appropriate policy-making. The central objectives of VET research are to:

- analyse the needs, processes and strategies for acquiring and updating competences;
- shed light on the relations between actors at various levels, with different interests and time-scales in a system of lifelong and lifewide learning;
- discuss approaches and problems related to the assessment, recognition and social valuation of skills and competences – acquired by formal and non-formal learning;
- elucidate the links between training, labour market and social systems which touch upon legal and institutional frameworks and social, economic, technological, cultural and demographic developments;
- point out the relevance of learning, training, skills and competences for the emerging 'knowledge, information, learning or service society', for social cohesion, citizenship and economic and individual performance;
- assist the various actors in VET in their search for options, in making informed decisions and in following up or assessing policies.

Vocational training is not one-dimensional or a single discipline. It involves economics, sociology, pedagogy and educational science, psychology, technology, demography, etc. A comparative overview of VET research is hampered by the fact that systems and organisation of VET and labour markets are different across countries, due to different traditions, norms and values. Research carried out in other countries is not always transparent because of language problems, lack of knowledge and appropriate tools for exchange of information (e.g. networks). Last but not least, although many problems and challenges are similar in European countries, solutions proposed by research vary greatly due to different views, theories, approaches and methods.

With this report, Cedefop continues the reporting system started in 1998 with the publication of the first report on VET research in Europe.[1] These reports aim to provide comprehensive and up-to-date information on key issues of VET, the main theoretical and conceptual approaches and empirical findings of research in different countries and disciplines. Furthermore, they attempt to draw conclusions and propose recommendations for researchers and decision-makers. We are confident that the reports will contribute to an improved cooperation both within the research community in different countries and disciplines and between researchers, policy-makers, practitioners and a wider public.

This second research report on vocational training builds upon the first report. Some topics have been deepened or updated with new research findings; some new issues have been added to reflect current debates. This background report contains original contributions by researchers from various disciplines of VET research. It is the basis for the synthesis report to be published separately by Cedefop[2].

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1) The research reports contain a background report with original contributions of VET researchers on various aspects, and a synthesis report, elaborated by Cedefop.

Background report: Cedefop, ed., 1998. *Vocational education and training – the European research field. Background report 1998* (2 volumes). Cedefop reference document. Luxembourg: EUR-OP.

Synthesis report: Tessaring M., 1998. *Training for a changing society. A report on current vocational education and training research in Europe 1998* (2nd ed.: 1999). Cedefop reference document. Luxembourg: EUR-OP (also available in German, French and Spanish).

2) Descy P., Tessaring M., 2000. *Training and learning for competence. Second report on current vocational training research in Europe 2000.* Cedefop reference document. Luxembourg: EUR-OP, forthcoming (also available in German, French and Spanish).

Publication of this report would not have been possible without the active participation of experts in different fields of VET research. We would like to express our thanks to all of them, and also to all those colleagues who undertook the strenuous work of translating and editing this publication. We owe particular gratitude to Ms Herpin who did an excellent job in organising this project.

The active participation and valuable comments and support from experts and partners within and outside Cedefop, from the European Commission and Cedefop's Management Board is greatly appreciated.

The contributions to this background report cover six main fields:

1. VET systems, coordination with the labour market and steering;

2. lifelong learning: challenges and reforms;

3. training and employment in a company perspective;

4. employment, economic performance and skill mismatch;

5. individual performance, transition to active life and social exclusion;

6. research activities in non-EU countries.

The first part discusses issues of steering, financing and coordination and contains six contributions.

L. Lassnigg discusses the profiles of 'VET professionals' – teachers and trainers, policymakers, social partners, practitioners and associations and others. His focus is on: (a) alternative means of steering and coordination beyond the traditional market-bureaucracy dichotomy; (b) the professional model of the higher education system; (c) the network model of the new types of company organisation; (d) the corporate model of industrial relations.

A. Green et al. provide an overview and analysis of current funding arrangements for VET in seven European Member States. He discusses in particular the financing of initial training, continuing training and training of the unemployed.

J. Lasonen and S. Manning proceed to a comparative investigation of European strategies to improve the standing of VET against general education. These strategies aim to improve training systems and the recognition of vocational skills within the labour market.

A. Bouder et al. study various aspects of the role certification systems can play, in a broad sense, in the very different ways in which skills are recognised in enterprises or in the labour market.

J. Bjørnåvold discusses the theoretical basis and European initiatives to identify, assess and recognise non-formal learning. He proposes a cluster according to contextual characteristics and reviews the approaches chosen by different countries and the European Commission.

M. Brugia and A. de Blignières analyse several dimensions influencing the evolution of the profile of teachers and trainers in Europe based on discussions held in the Teachers and Trainers network (TTnet).

The second part consists of four contributions dealing with the challenges and reforms imposed on VET systems by new professional profiles and the implementation of a lifelong learning strategy.

M. Ní Cheallaigh provides a comprehensive overview of the central elements of current lifelong learning strategies in EU countries which signify a shift towards a new paradigm compared to the strategies prevalent in the 1970s.

J. Onstenk discusses the needs and prospects of curricular redesign and didactic innovations of VET as a response to changes of job profiles and skill requirements. This refers to new skills needs, developments in the labour market and the responsiveness of VET systems.

P. Dehnbostel and G. Dybowski identify strategies implemented in a number of countries concerning increasing flexibilisation, differentiation and individualisation of training paths. The authors discuss principles of linking learning and work at enterprise level.

R. Loos provides a review of VET practices in the environment field, comparing five EU Member States through case studies.

The third part is dedicated to training and employment aspects at company level and is composed of six contributions.

J. Dejonckheere and G. Van Hootegem analyse globalisation, division of labour and training needs. They criticise overoptimistic views of the replacement of old production and organisation concepts with new ones.

S. Hanchane (with the collaboration of *P. Méhaut*) debates the role of training within external, internal and occupational labour markets. He touches upon strategies of enterprises and individuals concerning the formation and accumulation of human capital.

P. Trouvé et al. present a comprehensive overview of the main driving forces of employment and training strategies of small and medium-sized enterprises in several European countries. The paper illustrates the complexity and at the same time diversity of this field of VET research.

B. Nyhan analyses human resource development policies in a European context by looking at strategies for building a socially sustainable industrial/working life society in Europe.

S. A. Westphalen discusses the objectives and trends of human capital reporting at enterprise level and the implications for measuring and developing human resources.

M. Bellman presents methodological considerations and empirical studies based on company and enterprise surveys which demonstrate the potential of this research for vocational training, in particular when matched with employee surveys.

In the fourth part, four contributions are dedicated to employment, economic performance and skill mismatch.

J. Planas et al. deal with the dynamics of the supply of and the demand for skills in the labour market. They plead for a change in perspective, taking formal qualifications as well as other competences into account in labour markets.

J. Bollens discusses the relationship between unemployment and skills in a dynamic perspective. He opposes two theories explaining the persistence of unemployment in Europe: skill mismatch and incidence of long-term unemployment and the different policy measures related to these.

F. Büchel discusses overqualification and analyses two central aspects of overqualification research: the reasons why people are employed in jobs which require lower skills as well as the problems of finding valid measures for analysing such a situation.

R. Wilson reviews work on demand and supply forecasts by sectors, occupations and qualifications at national, regional and enterprise levels. He discusses the pros and cons of forecasts and alternative 'qualitative' approaches.

Section five deals with individual performance, transitions to work and social exclusion.

F. Pfeiffer reviews research on the determinants of participation in training and on the impact of training on individual performance, such as wages, unemployment, productivity and mobility.

D. Hannan et al. present a comparative empirical study on school-to-work transitions in several European countries. Discussed are the main approaches, databases and some initial results of research projects carried out within EU research programmes.

In addition, *D. Hannan and P. Werquin* proceed to a summary of comparative European research on school-to-work transition with particular attention to issues funded under

the TSER programme. They discuss findings concerning education and labour market change and the dynamics of education to work transition in Europe.

J. Vranken and M. Frans analyse selection and social exclusion mechanisms as well as training offers for target groups. Exclusion from training programmes is approached from different points of view: institutional, economic, cultural, psychological and political.

J. Brandsma discusses training and employment perspectives for lower qualified people and presents the results of a research project on the effectiveness of training programmes for the long-term unemployed.

Part six is dedicated to a presentation of VET research outside the European Union.

O. Strietska-Ilina presents an overview of the state of affairs in VET research in 11 countries of central and eastern Europe and attempts to analyse the responsiveness of VET research to the major socio-economic challenges occurring in the process of transition in these countries.

U. Lauterbach et al. provide an overview of VET research in selected non-EU countries (Australia, the US, Canada, three South American countries, Japan, the Peoples Republic of China, the Russian Federation, Turkey and Switzerland. They indicate the main institutions and activities of VET research including that carried out by international associations and organisations.

Finally, it appeared essential to conclude this report with a presentation of selected research projects supported by the European Commission within the Targeted Socio-Economic Research programme (TSER) and the first generation of the Leonardo da Vinci programme. Synopses of projects relevant to the themes treated in this report are presented.

Concluding the presentation of EU commissioned research, *L. Van den Brande* outlines the 1998-2002 key action on: 'Improving the socio-economic knowledge base'.

The broad field of research in VET in Europe is by no means exhausted in this report. But it is hoped that the review of current research on a number of issues relevant to vocational training will contribute to enhance transparency and cooperation between all actors involved – researchers, policy-makers and practitioners –, to stimulate debate and facilitate decision-making on practical measures.

Stavros Stavrou, Deputy Director of Cedefop

Manfred Tessaring, project manager

Pascaline Descy, project manager

Part one:

VET systems, coordination with the labour market and steering

Steering, networking, and profiles of professionals in vocational education and training (VET)

Lorenz Lassnigg

Abstract

This report studies the different profiles of professionals in vocational training systems ('VET professionals') in terms of their relations with the steering and coordination mechanisms within these systems. The 'new institutionalism' approaches in organisational theory on coordination between players and units in social fields provide the theoretical background. Vocational training is perceived as a complex area in which various types of players at both individual (pupils, parents, teachers, employers, etc.) and organisational level (schools, training providers, companies, political organisations and interest groups, state bureaucracies, etc.) must coordinate in order to make useful headway. The focus is on alternative means of steering and coordination beyond the traditional market-bureaucracy dichotomy, the professional model of the higher education system, or the network model of the new types of company organisation, or the corporate model of industrial relations.

The first section deals with conceptual aspects, developing in particular a general framework for coordinating training and employment. In the second section the concepts of innovation research and learning organisations are pieced into this framework. In the third section the link is created between coordination and steering mechanisms and the professional categories in vocational training. In the fourth section political approaches and steering and coordination strategies are discussed in terms of the general framework. In the fifth section some conclusions are drawn, which also take account of the problems of comparative and cooperative research for policy learning and policy borrowing.

The general conclusions are as follows: coordination mechanisms should be shaped on the basis of an analysis of the existing structures, the main flaws and shortcomings should be identified, and concrete solutions be found to overcome them; available structures should be viewed as a complex system of relations between various types of players, many of whom can be identified as 'VET professionals'; to a certain extent the way in which the coordination system works reflects the type of division of labour amongst these categories of 'VET professionals'; the skills and cooperation of the 'VET professionals' should be drawn on in order to develop coordination and steering strategies, which should take particular account of the role of teachers and trainers as core professionals; in this sense the identification and further development of new forms of division of labour amongst these professional forces and the creation of adequate structures for professional development are important elements of innovative coordination policy. Policy learning and policy borrowing processes in the European and international field are facilitated by splitting the coordination system and steering strategies up into multiple elements, and by analysing their systemic interplay.

Table of contents

Introduction 13

1. Regulation, coordination, steering and cooperation in VET systems – conceptual issues 14
1.1 Background: VET systems as an element of 'system building' and overall policy trends 14
1.1.1 System building 14
1.1.2 Policy trends for coordination and steering 17
1.2 A generalised framework of the coordination system 21
1.2.1 The field 22
1.2.1.1 The players 22
1.2.1.2 The tasks 23
1.2.1.3 Mechanisms of coordination 23
1.2.2 Coordination, boundaries and networks 26
1.3 Steering: main dimensions and policy options 28
1.3.1 Structures for steering 29
1.3.2 Structures of studies 30
1.3.3 Shaping of the teaching-learning process 30

2. New policy strategies for steering VET systems 32
2.1 VET, innovation systems, and innovation policy 32
2.2 Learning organisations and knowledge production 33
2.3 Networking and policy learning 34
2.4 Adaptation and shaping 35

3. VET professionals and steering mechanisms 36
3.1 Main categories of VET professionals and their roles 37
3.1.1 HRD practitioners and their roles 37
3.1.2 Categories of professionals in VET 41
3.1.3 Patterns of division of labour among VET professionals 43
3.1.3.1 The Austrian picture as an example 43
3.1.3.2 Observations and perspectives from other countries 47
3.2 Steering and pathways towards professionalisation 49
3.2.1 Consequences of recent reforms on teacher professionalism 50
3.2.2 Proposals for professionalisation in VET 50
3.2.3 Steering, coordination and professional profiles 52

4. Policies 'beyond' the state-market dichotomy 53
4.1 Outline of policies for coordination 53
4.2 Experience from selected policies 56
4.2.1 A comprehensive strategy for overall reform 56
4.2.2 Complex coordination systems: apprenticeship 57
4.2.3 Implantations – a comprehensive steering body in a bureaucratic system 58
4.2.4 Policies for school-to-work transition: education and labour market policy 59
4.2.5 Feedback from anticipation of change and innovation 60

5. Conclusions 61

Bibliography 65

Introduction

This report studies the different profiles of professionals in vocational training systems ('VET professionals') in terms of their relations with the steering and coordination mechanisms within these systems. The 'new institutionalism' approaches in organisational theory on coordination between players and units in social fields provide the theoretical background. Vocational training is perceived as a complex area in which various types of players at both individual (pupils, parents, teachers, employers, etc.) and organisational level (schools, training providers, companies, political organisations and interest groups, state bureaucracies, etc.) must coordinate in order to make useful headway.

Some research has been done, and even more political attempts made to gain more insight into these coordination processes and to work out new models. This usually centres on the market-bureaucracy dichotomy, with other coordination mechanisms being taken less seriously. The professional model of the higher education system or the network model of the new types of company organisation, or the corporate model of industrial relations can be seen as alternative coordination mechanisms.

More recent European proposals from the field of vocational training policy, as well as proposals from other international organisations (e.g. UNESCO) use the network metaphor as a way of improving coordination in vocational training. It is hoped that by creating informal or even more highly formalised network links between the various players, rigid hierarchical relations can be loosened up more flexibly than would be the case with a major reform to the system. The role of the social partners within this strategy is also highly rated as an element for improving coordination and steering, particularly through the involvement of the employer's side. This also comprehends the coordination mechanism of the association and the way how it relates to the network model.

Such political proposals on new forms of organisation besides the two traditional forms of market and bureaucracy tend, however, to be rooted more in practical, 'voluntaristic' considerations rather than building on a theoretical basis supported by research.[1] The question arises as to whether such strategies, which may appear highly idiosyncratic given the variety of different structures of vocational training, can actually be fitted in a general theory-based framework which can also serve as a basis for *policy learning*.

The alternative models of steering and coordination – professional oligarchy, networks, associations – focus attention on the players involved, their scope for decision-making and action, their strategies and strategic options, and on factors which influence decision-making processes. The bureaucratic model only considers regulation from the centre and through the formal channels of the decision-making process resulting from this authority. The market model only takes account of players at individual level, and decisions which influence the logic of monetary exchange. The alternative models take into consideration many additional elements, but in so doing also greatly complicate the issue.

The argument will be developed along the following lines:

1. The first section deals with matters of concept, in particular developing a general framework for coordinating training and employment.
2. In the second section the concepts of innovation research and learning organisations are integrated into this framework.
3. In the third section a link is created between coordination and steering mechanisms and the professional categories in vocational training.

[1] Quite some controversy still rages today over development trends in the relationship between education and employment. In a recent international study on the development of qualification systems in the global economy, David Ashton and Francis Green have demonstrated very clearly that 'despite an increasing effort on the part of empirical researchers, there remain enormous gaps in the knowledge of the magnitude of any links between skill formation and economic performance' (Ashton and Green 1996, p.2).

4. In the fourth section political approaches and steering and coordination strategies are discussed in terms of the general framework.

5. In the fifth section some conclusions are drawn, which also take account of the problems of comparative and cooperative research for policy learning and policy borrowing.

1. Regulation, coordination, steering and cooperation in VET systems – conceptual issues

It is assumed that one of the essential roles in the steering of vocational training systems is to ensure that vocational training meets the needs of the employment system. This is no mean feat, since it implies that steering must not only take place within a system, but rather that it crosses system boundaries, with the result that internal steering of vocational training is at least influenced, if not determined to some extent by external demands.[2] In order to describe these problems more clearly, we will begin by making a conceptual analysis of the steering and coordination problem, covering the following main aspects:

- a tighter definition of the vocational training system according to its specific characteristics;
- the development of a general framework for defining the problem of coordination between education and employment beyond the state and the market;
- the main forms and dimensions of steering in vocational training (organisational steering mechanisms, structure of study courses, steering of the teaching-learning processes);
- steering tasks and strategies of reform.

[2] The notion of system is loosely and heuristically used to denote a set of elements which exist together within a systematic relationship (i.e. taking no account of the high theoretical load of system theory); it is assumed, however, that a certain degree of care is needed in creating system elements, system boundaries, etc.

1.1 Background: VET systems as an element of 'system building' and overall policy trends

1.1.1 System building

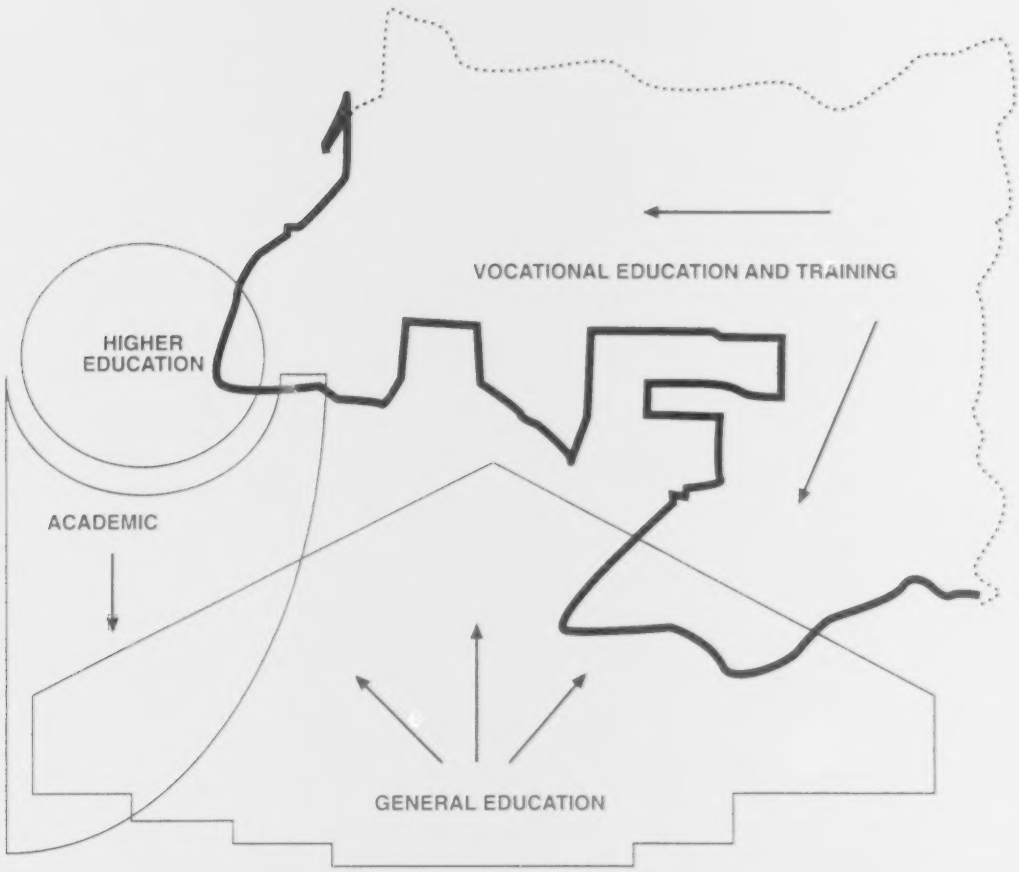
Nowadays the term 'training system' trips very easily off the tongue, as if it were some sort of clear-cut entity. The contemporary training system, however, should be seen as just one stage in a long-term historical process of system building. This system building can be seen in stylised form as the 'approximation' of three separate areas – compulsory general education, higher education and vocational training (this process is illustrated in Figure 1). From this perspective it is presumed that the different parts of the education system have special links with other different societal sub-systems, and different fundamental social functions are revealed[3].

There is a special link between vocational training and the employment system, since at the outset vocational training was anchored within the employment system[4]. It was only with the progressive institutionalisation of the education system that it broke away and was coupled to the other branches of the education system (compulsory general education, higher education).

[3] These areas or sub-systems are dealt with in rather separate and distinct 'discussions' in accordance with the different links and task assignments; irrespective of the different formations of the respective education systems, higher education research and vocational training research are separate from general education research, and there is very little transfer between the two sides (cf. e.g. OECD 1995).

[4] The term 'employment system' is not exempt from problems either. It is used in analogy to the term 'employment' as meaning all those organisations in which employment (independent or not) occurs as an economic activity (as a contribution to GDP); the term is thus distinct from the term 'labour market', which denotes the idea of assignment in employment, as well as from the term 'occupational system', which denotes specific types of institutionalisation of employment, and in particular from the term 'work', which tends rather to denote the content and social side of a basic human activity.

Figure1: 'System building' of education and training ystems (stylized)



This vision alters the understanding of the problem of coordination in many respects since

- the coordination tasks of vocational training work in both directions, both vis-à-vis the other spheres of the education system and vis-à-vis the employment system;
- coordination between vocational training and employment appears not as something to be created virtually 'from scratch', but rather as a recasting of practices which have always existed[1]; and
- the question concerning these previous practices is pushed to the fore, meaning that a suitable strategy for analysis must be found.

The variety of vocational training in Europe and the OECD area is much greater than in other areas of education, and comparative research is much less developed. It was only in the eighties that any major progress was

[1] This raises the issue of the fundamental 'alienness' of working and learning which has nowadays become a basic thesis in highly prominent educational policy discussions about the 'subordination' of education to the economy (cf. e.g. the criticism which the Council of Education Ministers levelled at the European Commission's White Paper on Education Policy, amongst others; Official Journal of the European Communities, 6.7.1996, C 195/2). The high degree of publicity given to this question can possibly be explained as biased perception as a result of an over-generalised Fordist-Taylorist influenced vision of employment.

made in this field of research[6]. One thing which the different systems do have in common is that the development of the various branches started from different points (cf. Schneider 1982; Boettcher et al. 1992):

- the predecessors of higher education, which constitute the first sector to be set up, and, quite closely related to them, foundation courses, which form the outset of today's academic secondary schools (or streams);
- compulsory general education systems, which evolved into the compulsory sector;
- and the various vocational training activities with apprenticeships representing a very important institution in history[7].

The historical development which has led up to the contemporary education system starting in the seventeenth or eighteenth century can be seen as a process integrating the sectors evolving from the various starting points. Consequently, even today the flaws and tensions are still visible on the boundaries between these realms, which for so long existed parallel or largely separate from one another. The institutionalisation of education and its differentiation from other social activities came about in parallel with the system-building process. Two further aspects which are of importance to vocational training are the following:

1. The integration of elementary and higher education took place at an earlier stage, and the wave of educational reform in the sixties and seventies, which brought about the development of comprehensive systems and broader access to the higher education sector, can more or less be equated with the concluding point of this integration. Vocational training tended still to be a realm apart, and in the majority of countries it was not really an issue in the reforms[8].

2. Vocational training should be envisaged from the outset as a combination of informal learning in the workplace, and formal activities in separate courses and organisations[9]. The separation or differentiation process means that activities in the workplace, or certain parts of them, were gradually transposed to special organisations[10]. Not only is this differentiation less advanced than in the other two branches, it also seems to have been developing in a contradictory manner over recent decades: in the sixties, with only the odd exception the clear trend within educational policy was still to keep vocational training separate from working life and integrate it into the formal education system – since the emergence of 'vocationalism', and even more so since the movement towards *Human Resource Development* (HRD) in the eighties, this trend has slackened off, or even been reversed. The links between work processes and learning processes are stressed in many new approaches and concepts, in particular in connection with models of the 'learning organisation'. It is possible that this trend will also spread to

[6] UNESCO's initiatives were an important step in this direction (cf. Tippelt 1997); '...as yet no-one has carried out a comprehensive comparative study of the development of vocational training in industrially progressive countries' (Lauglo 1997, 113).

[7] Although the apprenticeship system continues to be an important part of the vocational education system in only a few countries today, it may be assumed that the principle of apprenticeships (learning on the job from a master craftsman) was much more widespread in the past.

[8] The discourses which related particularly to vocational training about 'manpower planning' in the sixties can be used as an example, although de facto they almost exclusively considered higher education and the problem of raising access barriers in this field (cf. e.g. Papadopoulos 1994).

[9] This combination appears de facto in all education processes, albeit to different degrees and with different significance. Compulsory general education for example can be seen as a combination of processes at home and at school, and must also take account of what is meant by 'socialisation'.

[10] This process of separating out parts of the education system can also be observed with a time lag in the countries of the Third World, and is also reflected in political discussions (cf. De Moura Castro and Cabral de Andrade 1997).

vocational training and to a greater emphasis on the reintegration of training in the activities of actually performing a job (see also part 2 of this report and the report by Dehnbostel/Dybowski in the previous volume).

1.1.2 Policy trends for coordination and steering

This view of developments is of major importance for questions of policy, regulation and the steering of training systems. In terms of parts of society, vocational training has its own special position when compared with the other two sectors of the education system: vocational training was originally rooted in the employment system itself, whilst the other two fields are more closely tied to the public sector, with higher education establishments also being linked to the professions. Apprenticeships, which are often classed as 'traditional' or 'pre-modern', can thus be seen as a paradigmatic form of vocational training. Schools and institutes of higher education providing vocational training were also originally founded and run by the business sector in many countries[11], whilst compulsory general education was an element in nation-shaping and the development of the modern nation-state. For this reason, the paradigm of the state-owned public system which dominates compulsory general education is not really applicable to vocational training, and even the state-market dichotomy as the predominant regulatory mechanism is not suited to vocational training.

Over recent years, however, the lion's share of discussions on training policy has centred on this alternative:

- The initial stage, between the fifties and the mid-seventies, was characterised by attempts to develop better planning mechanisms within the state bureaucracy. This period of nationalisation and legalisation is characterised by the organisational control of the huge expansion in the education system, based on a high level of confidence in technocratic planning, and monitoring of the most important quantitative parameters of the education system (demography, pupil numbers, demand for training places, staying on and school-leaving rates, etc.).

- Following a period of uncertainty in the second half of the seventies, which was accompanied by all manner of criticism of the bureaucratic model and technocratic policy[12], the strategy of deregulation became more widespread, as did the creation of market mechanisms within training systems ('quasi-markets'), and in most countries steps were also taken in this direction (Whitty et al. 1998).

This general seesawing between state and market was also reflected in the field of vocational training. In the planning age, for example, sharp criticism was levelled at the apprenticeship system, as being inadequate for the public interest, and there were all sorts of proposals for stricter regulation and nationalisation (cf. for Germany, e.g.: Deutscher Bildungsrat 1969; Kell 1997). During the ensuing period the state-market dichotomy is described as *the* 'crux of the international debate on how vocational training systems should be regulated' (Koch and Reuling 1998, p.3).

The conventional discussion about coordination of vocational training ties in with this – more so than compulsory general education, for example – because it obviously has to sat-

[11] Although they may not always have been founded directly by companies, it was nevertheless often the case that associations of companies in certain sectors had a considerable say in the founding of such schools. These vocational parts of the education system also often did not fall originally under the auspices of the education authorities, but rather were considered an aspect of trade and industry. This development can be regarded as a cooperative area of the education system.

[12] Important aspects of this criticism are: Action research as an alternative to technocracy (Wagner 1990), Professionalisation as an alternative to bureaucracy (Deutscher Bildungsrat 1972), Ecological Strategies as participatory inclusion of the most important players concerned (Bronfenbrenner 1979).

isfy economic interests, whilst at the same time broader social and societal interests must be borne in mind. In this context, the limitations of market-based coordination have already been dealt with in great detail: on the one hand in terms of 'market failure' and the possibility of improving the market's allocatory role through public intervention, and on the other hand in terms of aspects which 'may not be easily generated through the market, even if the government intervenes with subsidies and information' (OECD 1996, p.165). These aspects of 'public good' were brought into the economic discussion by Musgrave (1959, p.44) as the qualitative elements of education, in terms of 'tolerance', 'integration' and 'cultural heritage'. Further aspects, which especially concern vocational training as a 'public good', are for example 'employability', 'transferability', or also the prospective provision of qualifications for future requirements (cf. European Commission 1996). Possibly the most essential aspect of coordination will be to strike a satisfactory and dynamic balance between these different and conflicting interests and objectives between 'market failure' and 'policy failure' (cf. also Booth and Snower 1996, Chapter 1).

Burton Clark's (1983) paradigmatic analysis of the higher education system can be used as an example of the extended view of coordination mechanisms. It drew a distinction between three fundamental mechanisms: bureaucracy, market and professional oligarchy, with existing systems being perceived as specific mixtures of these mechanisms. Two essential conclusions can be drawn from this:

1. firstly, the relationship between the state and the market is seen not as a dichotomy, but rather as a progressive gradation;
2. secondly, the analysis makes reference to other mechanisms beyond the state and market, sometimes appearing in various combinations with the former.

A more general investigation of coordination mechanisms is carried out under organisational theory, where there is a similar extension beyond the arsenal of the two traditional mechanisms of state and market, particularly towards networks and corporative associations. An important step in this theory is that the coordination of life in society is envisaged as a social dimension in its own right. Moreover, the 'other' mechanisms are no longer perceived as subordinate special cases or exceptions to the traditional 'main forms' of coordination, but are rather placed on an equal footing with them (cf. Powell 1991; Thompson 1991; Streeck and Schmitter 1991).

Closer consideration of some important aspects or developments in the political sphere can be of some help in clarifying the interplay between the various mechanisms:

a) firstly the policy of the 'welfare state' and the bridging of the systems divided between education and employment through the creation of bureaucratic planning mechanisms;

b) secondly, the types of vocational training systems and the special coordination in the apprenticeship system;

c) thirdly, the beginnings of professionalisation as an alternative to bureaucracy;

d) fourthly, systemic differentiation and the dynamics of reform;

e) fifthly, the 'crisis in the welfare state', the market economy approach, and new ways of combining state and market;

f) sixthly, the particularly complex nature of vocational training;

g) seventhly, new approaches to coordination between the different components of the education system (compulsory general education, higher education and vocational training).

As has already been mentioned, the main political strategy of the fifties and sixties, which also led to greater formalisation of the education system, can be summed up by the terms 'legalisation' and 'nationalisation'. The extension of rational planning within the state bureaucracy was seen as the most important development strategy. To a certain extent education was seen as a part of the welfare state, with the duty of guaranteeing the right to education, a policy which was supported both by the public as well as by most

of the players involved (cf. Widmaier 1981; OECD 1981). As the influence of ideas about the economic and social structural change towards the tertiary sector, and the contribution of technology and the 'human factor' to economic development grew, the planning paradigm was also extended to the links between education and employment. The *'manpower planning'* concept became an important strategic element in education policy, and one of the most important objectives of the OECD's strategy at this time was to set up planning bodies or departments within Member States' education administrations (Papadopoulos 1994; Hinchcliffe 1987). Since there was little confidence in the market, attempts were made to extend state bureaucracy into the labour market using the planning paradigm. This perspective soon proved inadequate, however.

One important reason why this perspective was far too abstract and idealised was that the vocational training system could only be steered by state bureaucracy up to a certain point. Even if the setting up of planning bodies had proved successful, they would not have held sufficient sway over vocational training. The OECD classification (OECD 1989, p.8)[13] of post-compulsory systems distinguishes between three types of systems:

1. school systems, which also include vocational training (e.g. the Scandinavian system);

2. systems based on apprenticeship (e.g. Germany, Austria and German-speaking Switzerland);

3. and mixed systems, which sometimes have a very high, sometimes a very low vocational training content (e.g. the United Kingdom, the Netherlands and France).

From the point of view of coordination and steering mechanisms, the apprenticeship system constitutes a case apart, which can be seen as a paradigm for vocational training. General political discussions often see this model as being predominantly market coordinated. But this structure is really determined by a complicated combination of mechanisms. Firstly, this combination includes the market (particularly for the assignment of training places and applications), then the state bureaucracy (for the rather marked regulation of framework conditions and for part-time schooling for apprentices), and thirdly a mixture of additional mechanisms, which are less obvious: corporate self-regulation by interest groups (employers and trade unions) is an essential element in this system, and to a certain extent 'professional' mechanisms also play a role, with professional groups ('training professions') taking an essential part, and with training taking a comparatively long time. The meaning of 'professionalism' in German is somewhat different to its meaning in Anglo-Saxon usage, where the term is more closely related to academic professions. In any case, the professional structure confers a special form upon the labour market, which is not easily grasped[14]. Whatever the specific significance of this

[13] A new typology was developed for worldwide use by the ILO (1998, pp. 69-82), which takes account of vocational training more closely: three basic types are distinguished: firstly, *'Cooperative Systems'* which correspond to apprenticeship training; secondly *'Enterprise-based systems'* including the Japanese system and a type of the 'voluntarist system' with the United Kingdom as an example; and thirdly *'State-driven Systems'* in which the distinction is once again drawn between a demand-oriented and a supply-oriented system. This typology does not however extend to the relationship between vocational training and general education.

[14] There are different interpretations of the significance of the vocational structure of the apprenticeship system, ranging from the concept of 'occupational labour markets' (Sengenberger 1987) to emphasising the difference between 'training occupations' and 'employment occupations' (Brenner 1997). It can be assumed that many things are left to be clarified in this sector and that there are many misconceptions and a lot of exaggeration, all of which require clarification. Rolf Arnold and Gisela Dybowski-Johannson (1995, p. 325), for example, are emphasizing a proper understanding of vocational change as being the central interface between the development of learning organisations and vocational training in Germany. David Marsden (1986, Ch. 8) again stresses the importance of vocational structures for the workings of labour markets, but from another perspective.

structure, the professional groups within the apprenticeship system are highly institutionalised, and constitute social units which bridge the two sides of the labour market, which thereby becomes somewhat tied in with the organisation of the system.

The bureacratic structure of education systems must also be differentiated according to additional characteristics which obviously play an important role for coordination. Even before these questions had taken on any prominence in education policy, Margaret Archer (1979, p. 628, p. 671) had worked out how important the degree of centralisation was to the dynamics of development and the dominant pattern of reform strategies. Since the various groups of players in the two basic forms of centralised or decentralised systems interact differently, this in turn produces different long-term patterns of development: 'stop-go' cycles in centralised systems and 'incremental change' in decentralised ones. Burton Clark (1986) also picks out similar basic patterns in his comparison of European systems with the American higher education system. A further important dimension in this context is described as 'fragmentation-unification', virtually as a horizontal dimension of unification (Scott and Meyer 1991, p. 131).

Increased criticism of the bureaucratic model of the education system was given greater prominence in the early seventies in Germany, for example, by the *Deutscher Bildungsrat* (Education Council), which was influential at least in terms of ideology. Initially, however, criticism was not levelled at the high degree of legislation, nor at state organisation, but rather at the bureaucratic structure of schools, which was considered to be incompatible with their teaching role. The role of teachers as the lowest rung of the bureaucratic structure of authority was criticised, and a *professional model* was demanded. Co-determination and greater collegial autonomy along the lines of more highly decentralised systems (e.g. such as those in England) were important points (Deutscher Bildungsrat 1972). Simultaneously, however, demands were made for more legalisation and regulation of the decentralised and less closely regulated apprenticeship systems. Similar moves towards a stronger legal foundation, particularly in the field of vocational training, can also be observed in other countries, e.g. Austria, the Netherlands and Finland over the same period.

The next stage was reached when the 'crisis in the welfare state' emerged in the eighties, and the market mechanism grew in importance as an alternative to bureaucracy. The professionalisation strategy never matched the high level of influence which the market strategy had temporarily acquired. The thrust of educational policy was changing, and decentralisation, deregulation and devolution of authority became the most important points in the reform of the education system in many countries (OECD 1996, particularly pp. 172-173; cf. also Whitty et al. 1998). Parents opting for state schools, increased autonomy for schools through the shifting of decision-making processes, 'accountability' and changes to state responsibility became essential policy aspects. The creation of quasi-markets, 'the separation of purchaser from provider and an element of user choice between providers' became a central element of reform (Levacic 1995, p.167). The state, however, did not disappear, it just took on a different role, described by Guy Neave (1998) as the 'evaluative state': The state-education relationship was recast, with new intermediate bodies ('trusts', 'agencies', etc.) being drawn into the equation which relied more on 'leadership' and management methods than on the traditional structures. A more recent analysis of reform strategies in five countries draws the conclusion that '....there does appear to have been a convergence of policies, at least in our five national settings. These involve an apparently paradoxical combination of state control and market forces or, to put it more specifically, a combination of an 'evaluative state' and 'quasi-markets' '(Whitty et al. 1998, p. 12).

So it transpires that in the general school system and that of higher education, where these analyses were carried out, the abstract market-state dichotomy is not really suitable for understanding developments. New combinations and types of organisation are coming

into being, both at school level, but also on the level of more aggregate systems. The task in hand is more complicated in vocational training since at least two additional dimensions need to be taken into account:

1. firstly, the greater internal differences and the many schools, training channels and possibilities;
2. secondly, and still more importantly, there is quite a marked link with the economy, the labour market, and the system of employment.

The first point indicates that competition was always present in vocational training, since young people were called upon to choose between various options. Structuring this choice is therefore one of the most essential tasks for coordination in vocational training, which is also closely tied in with the other sectors, since they influence the choice made whilst also representing alternatives in themselves. The second point indicates that the vocational training system is broadly expected to fulfil objectives imposed upon it from the outside in any case. The choice of vocational training courses will always be more heavily influenced by expected employment prospects than is the case in the other sectors, even though these links and influences are difficult to judge and assess (cf. Raffe 1999). The trend towards 'economic rationalism'[15] in education policy in the eighties, which is so often stressed and criticised seems to be of little relevance to vocational training. On the contrary, signs in this sector point in the opposite direction: towards the enrichment of vocational training through the addition of more general and foundation elements[16].

Finally, the relationship between the three parts of the educational system – compulsory general education, higher education and vocational training – has lately become an important aspect of political discussion in the most recent OECD publications. A redefinition of higher education is being suggested, according to which universities together with the other organisations at post-secondary level (non-university institutes of higher education, and the numerous forms of adult education and further training) would be merged in a catch-all system of 'tertiary education'. The boundaries between the 'scientific' and research functions and the 'purely' educational and training role should be loosened up in this system (OECD 1998a). A further proposal against the background of the development of a solid policy towards life-long learning concerns organising the links between the various parts of the education system. 'In many countries goals and agendas of different parts of the system are implicit or have not recently been reassessed and, consequently, may pull in different directions.' (OECD 1996, p. 188). Improved interplay between general and vocational education, as well as between secondary and tertiary education and between formal and informal education is seen as the prerequisite for the development of life-long learning.

1.2 A generalised framework of the coordination system

The second central element of the conceptual analysis of the steering and coordination problem lies in the general shaping of the coordination system. Here a heuristic framework is developed which is admittedly rather 'loose' and which starts by breaking down the scope

[15] Whitty et al. (1998, 37-38; cf. also Pusey 1991, Marginson 1993) describe 'economic rationalism' as follows: education is becoming a commodity, the most important political aims are developing an efficient and effective system for distributing these goods. Other aspects are the major importance of economic aims (with education being separated from social and cultural aspects), the use of the market metaphor, and a central administration for the education system to promote these aims.

[16] In order to better distinguish these aspects, the OECD suggested a three-level classification of post-compulsory education, which can appear in different combinations (OECD 1989, pp. 20-21):

1. *general* (contains elements which continue and extend compulsory general education);
2. *foundation* (aims at 'preparation…to pursue certain types of study', which may be more narrowly or more broadly defined); and
3. *specific* (aims at 'ready competence and expertise in the chosen field or occupation').

of possibilities for coordination processes in a stylised manner along the following lines:

a) types of *players* involved;

b) in the affected *sectors*;

c) at different levels of society;

d) who handle the various coordination and steering *tasks;*

e) through numerous possible *interactions and mechanisms.*

This analysis shows how the conventional approach to the coordination problem, starting with the general market-led steering mechanism which is seen as dominant, or through hierarchical or bureaucratic forms, seriously restricts the scope for conceivable solutions from the outset. The helpful decrease in complexity which results from this generalisation is bought at the price of conceptual simplification which brings processes on the boundary between education and employment to the fore and greatly reduces the number of possible coordination mechanisms.

The essential element in all of this is that the basic problem of steering mechanisms is perceived as a 'zero-sum' type of problem between market steering and bureaucratic steering, where each time round one mechanism is highlighted at the expense of the other. On the one hand, the complexity of the problem is revealed when the coordination system is broken down in this way, since the coordination problem does not only exist across system boundaries, but also implies an interface between the two general mechanisms of bureaucracy (education) and the market (employment). On the other hand, however, this approach makes it possible to open up the scope of the question by building up an area of intermediate, alternative and complementary mechanisms and types of organisation, where there is room for the conceptual integration of many other mechanisms (particularly interorganisational networks, organisation by associations, corporatism). This means that the perspective is somewhat altered, since these mechanisms as they are mentioned in the concept of the 'evaluative state' are not just taken up by chance, but are included from the outset as integrated and, in principle at least, equal components of the coordination system, but are not viewed through bureaucratic versus market spectacles.

1.2.1 The field

The first step towards providing an explicit reconstruction of the area in which coordination between education and employment takes place is actually to 'deconstruct' the complex field in order to analyse the players involved and their areas of action. It is the types of organisation in which coordination takes place, and the possible connections which the coordination system can form which stand in the foreground, rather than the empirical relations that can be observed.

1.2.1.1 The players

The diagram (see Figure 2) highlights the different types of players in the field of coordination. Four separate columns are shown (education system and employment system, both being split up into supply and demand side), with players on the different levels:

- the individual *micro level* (teachers, pupils, educators, employees, jobseekers, employers, etc.);
- the *macro level* of national[17] institutions and organisations (ministries, school administrations, unions, employers' organisations, etc.), – overlapping with the meso level – and also regional bodies with greater or lesser clout (*Länder*, communes, regional associations, etc.);

[17] The international or transnational level would be a further level which might be considered, but this level is not yet very developed in the education world (e.g. education policy is subject to the subsidiarity principle within the EU). The question of whether there is any interdependence with the international level and what the trends are in this regard in the system of coordination between education and employment is undoubtedly an important one nevertheless, to which adequate importance will have to be attached in future research.

- and, in between, the organisational *meso level* (schools, companies, etc.);
- alongside these types of players in the co-ordination system in the narrowest sense of the term there are also other more general ones who play a greater or lesser role, particularly the institutions within the political system (legislation, government, political parties, etc.) and the labour market institutions which connect the two sides of the market (labour market service).

It is essential that the fabric of relations be seen as open and dynamic. In the reality of a coordination system, which essentially will still be nationally organised today, these players or types of players can each be analysed in concrete terms, and potentially there is interaction between all these groups which is related to coordination.

1.2.1.2 The tasks

Coordination procedures are interactions and relations between the players, which aim at striking a balance between the two poles of the coordination system, demand for training and demand for manpower. In schematic form the coordination procedures can be distinguished in terms of a quantitative and a qualitative structural dimension, so that certain chains of actions and causations are set off, triggered in particular by the two vertices:

a) In quantitative terms we are talking about transitions, often in the form of decisions about selection or capacity.

b) In qualitative terms it is largely a question of establishing and changing the structure and profile of training courses or jobs, in other words 'shaping' the profile, as it is known in vocational sociology.

What should be stressed is that, whilst on the one hand these two dimensions run independently of each other, on the other hand they also interact: quantitative variations can have serious indirect effects on the qualitative structure. One example of this is the effect of increased student numbers in higher education, which is described in terms of the transition from the traditional elite higher education system to the modern mass higher education system, and possibly beyond to a universal higher education system (OECD 1998a, p. 9; drawing on Martin Trow and Ulrich Teichler).

Using this heuristic representation, it is possible to analyse real coordination processes. For example, it can be used to draw up international comparisons of coordination systems, which to date have at best only existed in very patchy form (as a step in this direction cf. OECD 1998b).

Tentative mapping of coordination tasks links them with the numerous political proposals being bandied about at the moment (see Figure 3). Such mapping can provide a point of departure for more concrete discussion of political strategies.

1.2.1.3 Mechanisms of coordination

It is easy to see that there is a very broad spectrum of coordination processes within this perspective, which are almost unmanageable in any real system. Literature on mechanisms of social coordination in the framework of institutional organisational theory can help to reduce this complexity (cf. in particular Thompson et al. 1991).

In this framework (cf. diagram in Figure 4) four coordination models in particular are picked out, as shown in the diagram:

1. *Hierarchy, bureaucracy, central planning.* In this model, coordination comes about through the bureaucratic integration of the columns, with central tuning at macro level. This is obviously not possible to the same extent in every column, which is why this mechanism is indicated for education supply.
2. *Market.* In this model, coordination is regulated by individual compensation and feedback processes in a system with two interdependent markets (education market and labour market). This mechanism obviously does not cover any of the procedures at the higher levels.

Figure 2: Stylized actors and coordination tasks

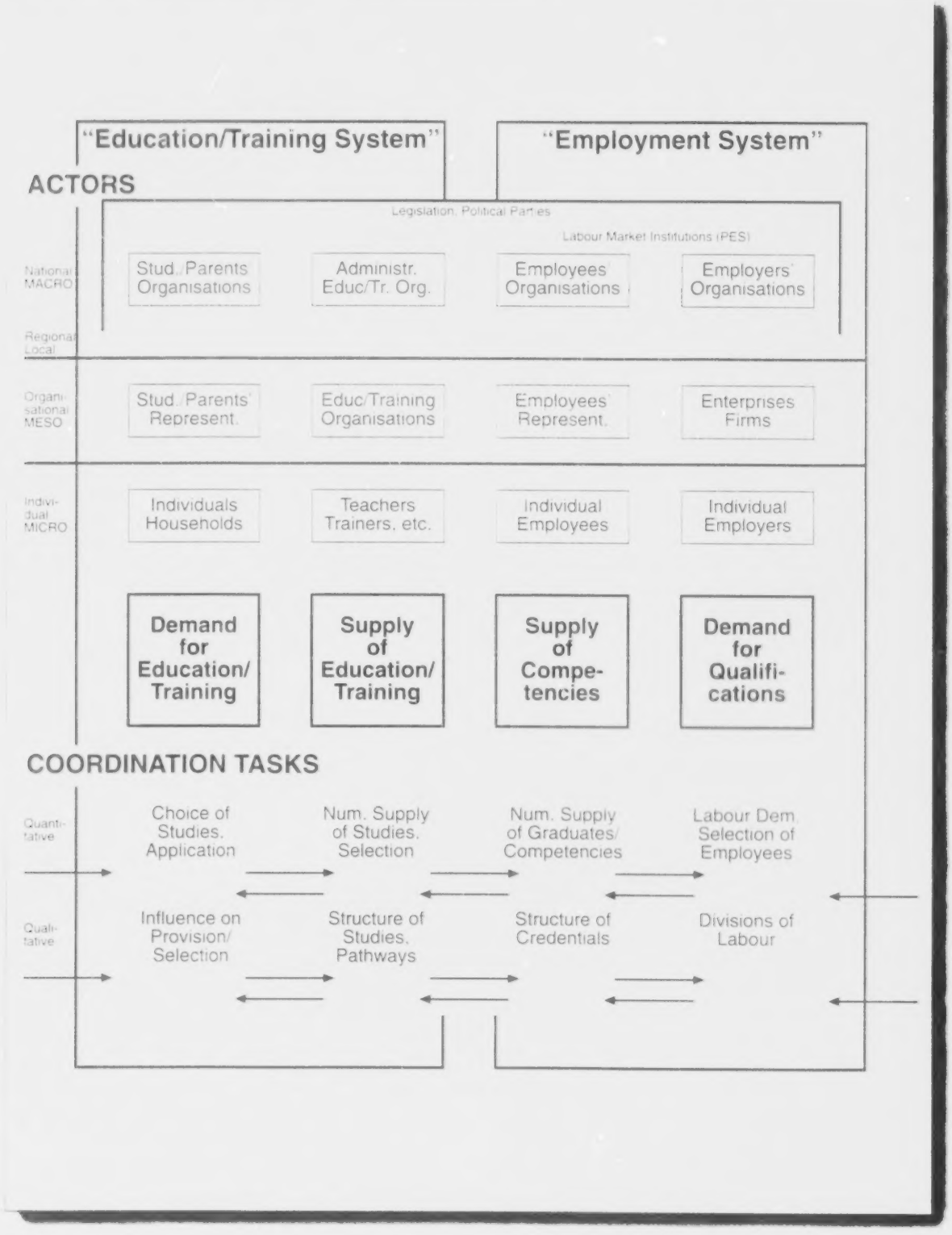


Figure 3: Mapping of coordination tasks and main policy options

COORDINATION TASK	QUANTITATIVE	QUALITATIVE
Coordination between education/training demand and supply		
	numerical allocation - determination of numbers, - provision of study places, - determination and selection of applicants	shaping the profiles - composition of curricula, - breadth - depth, - study lines - modules
Main policy options:	- Social demand approach, quantitative (allocation), qualitative (adaptation) - Strengthening market forces concerning allocation (vouchers), selection/promotion (costs, incentives), information (signalling test results) - Guidance and counselling - Testing/assessment at entrance	
Coordination of the teaching/learning process		
- Pupils/students management	selection, retention during the teaching/learning process	transformation of potentials to competencies
- Personnel management	- workload - working conditions - determination of salaries	- preconditions (training, etc.) - division of labour among professionals - progression, further training, careers
- Resources management	allocation of resources in relation to study-places	standards for the utilisation of resources in relation to study-places
- Shaping of learning environment	selection/allocation of learning sites	design/utilisation of learning environment
Main policy options:	- standards and assessment - new teaching/learning methods (teaching -> learning) - new technologies - integration of formal and non-formal learning, workplace learning - professional policies, change of working conditions and division of labour, continuing training - input-related standards - new methods of resource acquisition (levies, training funds) - new organisation/management methods (TQM, etc.)	
Coordination between competencies/qualifications demand and supply		
	numerical allocation - transition from education/training to work	- determination of credentials in relation to the labour market structure - relation of attainment to credentials - shaping the qualification profiles of working life
Main policy options:	- competency-based assessment, creation of credentials independent from certain studies - combination of study and work (apprenticeship, HRD) - partnerships education and training - enterprises - including representatives from working life into steering bodies - development of anticipation mechanisms of development and change of demand for qualification - transition policy	
Overall policies	- development of the knowledge base, educational R&D - overall change of the steering system - policies for lifelong learning - education and training policies as elements of innovation policy	

3. *Association*. In this model, coordination is prompted through organised relations between players who in principle share similar interests, with consensus-based negotiating systems playing an essential role. This mechanism has been well tested for the more complex levels in the area of the employment system (employers' organisations, trade unions); it also exists in quite a pronounced manner within the field of education supply (for example in the shape of educators' organisations), but will be less marked in the area of demand for education (parents, young people, students, etc.).

4. *Networks*. Another model comes in the form of social networks, which are 'neither markets, nor hierarchy' (Powell 1991), nor associations either. An essential characteristic of this type of organisation are direct links with a certain permanence between the players, which are maintained through informal ties. It is the *trust* built up amongst the network members that provides the coordination medium, rather than money or formal authority.

The first two mechanisms have played a clear role in political practice and literature about the coordination of education and employment, or are still doing so: the *manpower* approach to manpower planning corresponds to the bureaucratic model[18]. The first step is to forecast future manpower requirements, and to plan the supply of education accordingly. The demand for education should then fall in with the forecast, with varying degrees of leeway. The economic *human capital* concept of striking a balance using individual transactions corresponds to the market model.

With the concept of manpower planning having proved unreal and unworkable for many reasons, and with many lines of argument long claiming the market model to be unsuited to general coordination (cf., for example, Blaug 1971), it seems reasonable to sound out the potential of the other models. Problems related to the two traditional coordination mechanisms – plan (bureaucracy) and market – are largely to do with future expectations and dealing with uncorroborated information. Suffice it to mention here *false prognoses* or the notorious *roller-coaster effect*.

1.2.2 Coordination, boundaries and networks

In principle, then, bureaucracies meet with markets on the boundary between education and employment[19], which means that two different coordination models need to be coordinated. In principle, the discussion as to the workability of these two models in the plan-market dichotomy stems from the fact that it is implicitly assumed that the mechanism in question is extended to the other system. The concepts of association and network have the comparative advantage of permitting a large number of flexible coordination processes; on the other hand, however, this very complexity raises the possibility of contradiction and friction between players.

Four different types of interaction between players can be seen in the diagram showing coordination relations (see Figure 5):

Network relations of types 1 to 3 are plausible in many respects, as for example the in-

[18] The relationship between research in the manpower model and the bureaucratic model was obviously only indirect, in that the analysis of the economic factors and the prognoses or projections based thereupon were intended as data inputs for state planning purposes. On the other hand, however, the model nevertheless assumes that self-regulation through the market alone does not work. The social demand model for the planning of training should also be mentioned as an alternative to the manpower model; it places primary emphasis on developments in the training market as a factor to be taken into consideration in education policy planning (cf. Contributions in Psacharopoulos 1987).

[19] The position of individual players can be interpreted in different ways: are pupils (or parents) part of the school as a bureaucratic organisation, or do they belong to the system's surrounding environment? A new perspective from the point of view of a consequent customer orientation vis-a-vis the demand for education is developed in OECD 1998a.

Figure 4: Stylized actors and mechanisms in the coordination system

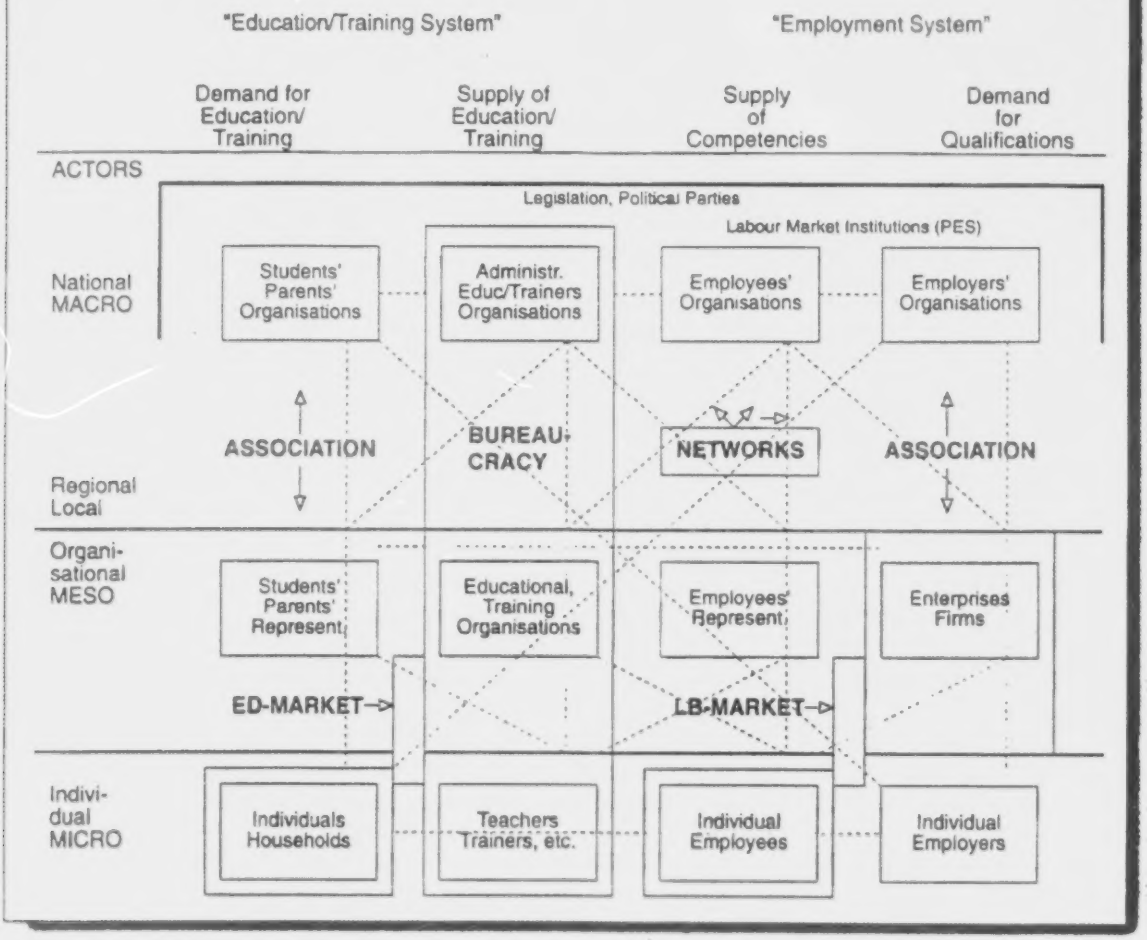


Figure 5: Types of ties in the coordination system

	Within the columns	*Between the columns*
Within the level	**Type 1** (e.g. between national ministry and national teacher representation)	**Type 3** (e.g. between individual parents and individual teachers)
Between the levels	**Type 2** (e.g. between individual players and their organisations)	**Type 4** (e.g. between national employers representation and a school)

formal networks of relations in bureaucratic systems, or the local networks between the various types of players. For coordination between education and employment, however, what is needed are links which cross the 'system boundaries' – because of the interdependencies which have already been mentioned, presumably above all in the case of type 4 relations, which are the least likely. Coordination processes in the network mode need connections which encompass the scope as broadly as possible and with a certain density. This complexity and diversity would appear to represent a peculiarity of the education-employment coordination system, since previous analyses of this type of field or networks between organisations tended to cover players of the same nature (particularly companies), or different players on just one level (e.g. policy analysis), and certainly not so many types of players of such different sorts all at one go (cf. Scott and Meyer 1991).

Obviously, many of the possible type 4 ties are highly improbable. Two types of organisation can be applied which possibly embrace the entire system:

a) *Balance of interests in the political system or in corporate forms.* Political parties, for example, are presumably still organisations which most widely cover the various levels, and also the players from the different columns; to a certain extent interest groups can also be seen as a framework for far-reaching ties (Streeck and Schmitter 1991; Archer 1979).

b) *Occupations and professions.* (Academic) professions stand out in particular because they embrace both forms of professional practice (self-employed and dependent), and also training. To a certain extent this also holds true for occupational organisations, although in this field there is often a clearer separation between the employer and the employee side. Sociological analysis of occupational systems has described occupational groups' control of training, for example, as an important element of the professional associations (and where access to training is involved, this control also extends to demand for education) (Beck et al. 1980). It can also be assumed that under static conditions and apart from certain monopolies and interest-related shortages, a system of professional organisations would be well-suited to carrying out the decentralised coordination of education and employment in its field.

1.3 Steering: main dimensions and policy options

This type of approach opens the door to the possible fragmentation of the coordination problem into a multitude of different mechanisms, which together can form different configurations or regimes (cf. Schmid 1996). The general diagram of the coordination system as shown makes it possible on the one hand to criticise the one-sidedness and shortcomings of the traditional approach, whilst on the other hand permitting the integration of a large number of rather pragmatic and political strategies in terms of solving the problem of coordination.

The following general bases for political strategies can be picked out:

- the organisational structures at the different levels, within which the various players are linked (particularly the distribution of powers of decision-making);
- the structure of educational and study paths (content and qualification), their division into units, and the structuring of possible pathways;
- the structuring of the teaching-learning processes in the system (learning environment), which is determined in particular by the model and profile of the educators, the distribution and nature of learning sites, and how much account is taken of the context for the learning process.

If the concluding picture of international educational development from the point of view of the OECD is followed (Papadopoulos 1994), then these elements can also be used to reconstruct the different political focuses: the period of macro planning for education growth within the rational paradigm was followed

around 1970 by a shift towards quality aspects at school level[2].

Major projects were carried out on innovation at the micro level (OECD/CERI 1971, 1973, 1978), and the concepts of planning, research and development were reviewed and revised (OECD 1974a, 1974b). Over the following years, the curriculum and teacher policy crystallised out as important focuses (OECD 1976, 1979).

One major shortcoming in this whole process, however, was that initially initiatives at micro level were not used in the shaping of the macro structures. This only happened to any great extent during the neo-conservative attack on the welfare state in the eighties.

1.3.1 Structures for steering

The dominant ideas about the creation of new steering systems are strongly influenced by public choice-based approaches, which paradigmatically lay behind the World Bank's educational policy recommendations (cf. Lauglo 1997; de Moura Castro and Cabral de Andrade 1997; Middleton et al. 1993). The steering concept moves within the range between state or policy failure and market failure. Systems must be created, which can provide players with behavioural incentives along the lines of what they want to achieve.

In the case of education policy, the central issue is the relationship between the players within the bureaucratic systems, and the external 'stakeholders' (pupils, parents, employers, local communities). The basic assumption is that because the balance between the costs and returns of change is wrong, people within the bureaucratic system inevitably opt for the status quo, with the result that 'inertia is the rule', and there is no adaptation to external requirements. Regulation would appear first and foremost to serve the internal players, and, moreover, is impermeable to external influence. Any attempt at reform which is not sufficiently rewarded is therefore doomed to failure.

Claudio de Moura Castro and Antonio Cabral de Andrade (1997, p. 86) base their theory on the assumption that education reforms of the past often produced negative results because, when taken to the extreme, the demand for increased effort brings with it greater uncertainty, resulting in badly defined and uncertain aims of improved 'quality'. By shifting decisions to the lower level of achievement, the link with external 'stakeholders' can be strengthened, possibly resulting in a better balance of interests.

In the case of vocational training, it is the employers who are seen as the most important external 'stakeholders' – 'they are the market'. In his interpretation of the World Bank policy paper, de Moura Castro (1995, p. 4) expresses the situation unambiguously: 'The rule is simple: no demand, no training. In other words, the demand for training has to be closely monitored and only that training which responds to a clearly identified demand should be offered. No more, no less'.

Consequently, steering structures should be created which make it possible for the employer to exert some influence, and which at the same time also allow their demands to be assessed:

- the setting up of collaborative steering organisations which give employers real influence over decisions and provide sufficient scope for a balance of interests between the different 'stakeholders';
- a second condition is the setting up of mechanisms for feedback, evaluation and anticipation of demands on the labour market for the vocational training institutes;
- thirdly, practical cooperative links should be established between vocational training and the employment system in order to bring these two worlds closer to one another.

These points concern the organisational links between the different players.

[2] This shift can be linked with the 1970 Paris Conference which guided attention onto '....specific micro-educational problems, directed at enhancing the effectiveness of educational systems, as against the more global approaches of the past' (Papadopoulos 1994, p.73).

1.3.2 Structures of studies

The structure of courses refers in particular to the way in which the content of training is organised. Although it is the curricula which form the actual core, a whole host of other more process-related elements are also involved, which affect the steering of access possibilities, the choice of educational pathways, and the accompanying signalling systems composed of formal requirements and qualifications. As regards the study structure, four dimensions can be distinguished, which form different policy options:

a) The first dimension regards *the way in which the targeted qualification elements and the content of learning are conceptualised*. The most important distinction affects the traditional division into academic subjects (the fragmentation of knowledge, the 'Triumvirate' of knowledge, skills and attitude, etc.; cf. Eraut 1994, p. 15) as opposed to the new, more holistic elements (basic skills for learning; basic job-oriented or generic skills, key qualifications, contextualised key qualifications; cf. Brandsma and Nijhof 1999, p.4), which basically aim at facilitating and improving the transfer (this is dealt with in more detail in the framework of conceptualisation of forms of knowledge in Section 2).

b) The basic pattern for *allocating general and specific elements of qualification* can be shaped either using the model which 'uncouples' general and specific education (general and foundation elements in the formal education system and specialised elements in employment), or according to the model which moulds itself to fit in with apprenticeship.

c) The third dimension concerns the creation of *longer and more complex* training pathways which tend to aim at a more holistic pattern of qualification, or its fragmentation into *flexible modular* systems.

d) The fourth dimension concerns *the relationship between education processes (curricula) and certificates*, which can be planned either separately or in association, as well as – closely related thereto – the sort of standards which condition qualifications (traditional exams or competence-based qualifications, group-reference-based or criteria-based assessment).

There are pros and cons attached to both ends of this dimensional scale, which have so far prevented any clear-cut assessment from being made (cf. e.g. OECD Votec study; OECD 1998c; Lassnigg 1997). These dimensions can be used as parts of broader political strategies whose degree of coherence varies. Real systems are complex mixtures of these elements, which can develop in any direction.

1.3.3 Shaping of the teaching-learning process

Attention has recently shifted more closely to the conditions governing the teaching-learning process, since the significance of the contextual conditions for learning have become clearer (Brandsma and Nijhof 1999). The traditional separation between the content and processes for putting this content across, which finds expression in the categories of curriculum development, subject teaching, and learning methodology, is brought into question for approaches using learning in practical contexts in particular. There is still a very big difference, however, between the predominant models and these newer concepts. Some important dimensions in this context are the professional profile of the educators and the design of the learning site. In this context, the following points are important in terms of policy options:

1. The first point concerns the basic conception of professionalising the teaching profession. Important proposals refer to the concept of the *reflective practitioner* (Altrichter and Posch 1990; Elliott 1993). Recently, there have been calls for the creation of traditional professional characteristics: autonomy, self-regulation and a specific code of ethics (Hartmut von Hentig suggests a 'Socratic Oath' in analogy to medicine; cf. Hentig 1994, p. 258f.; see also Hargreaves 1997; Mc Laughlin 1997 in the Anglo-Saxon field).

2. The second element concerns the division of labour between professional profiles in the education sector, and particularly to

what extent educators can cope with even more complex forms of share-out, similar to roles in the HRD field (this is covered more thoroughly in Section 3). Two basic categories of educators are contrasted here, which also represent very different learning environments: teachers and trainers.

3. The third element concerns the organisation, range and format of teaching environments. For a long time hence, the choice will continue to be between school and non-school, but another important question concerns the utility of certain types of 'practice simulation' (Nieuwenhuis and Mulder 1999).

4. The fourth element concerns the organisational model which underlies the various different learning sites. Organisational models in this area vary between the school as a part of bureaucracy, and the company as a context for practical learning as representing the two points of departure. But 'educational organisations...are usually thought of as *not* fitting the overall image of a machine bureaucracy' (Scheerens 1997, p. 289). There is a trend in certain circles towards company-based organisation, but its suitability for organising learning processes is also being brought into question[21]. The concept of the learning organisation offers an alternative (this point is dealt with more thoroughly in Chapter 2; cf. De Caluwel et al. 1988; Finger and Buergin 1999).

We can now come back from this last element of the meso-organisational level of educational organisations to the model of steering mentioned at the outset in the public choice perspective, and refer to the institutionalist counter or competitive model. Different points of view are bound to emerge at theoretical level according to whether one considers the system from a macro, micro or meso point of view. Even if this can be 'logically solved' by contrasting the various premises, the mixed policy options and proposals which can form workable configurations still have to be dealt with.

The core of institutional understanding of educational organisations can be traced back to Karl Weick (1976)[22] and John W. Meyer et al. (1983), and is based on the hypothesis of the 'loose coupling' of processes to their technology. The 'production model' is rejected for schools on the basis of the way in which the education and training processes are understood. The terms 'institutional' versus 'technical' are used to contrast the underlying rationality of the training organisations with the rationality of the factory (Meyer et al. 1983), and the essential point is that the learning process in the school is conceptualised as being '*inherently non-technical*'. This organisation can therefore not be built up on its technical functions, tending to act more as a protective screen against the unsolvable conflicts about the '*right technique*' for the processes within it: '...institutionalised organisations (...) buffer their structures from the actual technical work activities (...) using such techniques as certification, delegation, secrecy, and ritual, these organisations attempt to decouple their technical work from the organisational structure (...) the institutional organisation turns its back on its technical core in order to concentrate on conforming to its institutional environment (...) a school, to survive, must conform to institutional rules (...) that define teacher categories and credentials, pupil selection and definition, proper topics of instruction, and appropriate facilities. It is less essential that a school's teaching and learning activities are

[21] Whitty et al. (1998, p. 14) for example interpret the reforms which they investigated within this field between bureaucracy, market and the traditional understanding of politics. On the one hand they argue that 'recent research suggests that the fragmentation of bureaucratic systems of education is leading to a polarisation of provision' (i.e. between 'good schools' and 'failing schools'), an essential factor being that the good schools develop the skills for market economy behaviour, and at the same time there is a 'consolidation of traditional academic models of schooling' – as a conclusion they state: 'The key issues, therefore, are likely to remain political ones which need to be pursued in the political arena'.

[22] The term 'loose coupling' is often used in literature, but usually it is not understood in its essential meaning, but rather as a loose coupling between organisational units.

efficiently coordinated or even that they are in close conformity with institutional rules.' (Meyer et al. 1983, pp. 46-47; cf. also Scott and Meyer 1991, pp. 122-126)

This interpretation makes it clear that the main thrust of the 'market-oriented strategy' is more or less diametrically opposed to the rationality of the 'institutional' viewpoint, the processes are interpreted in a more or less 'technical' manner, 'grass roots' activities should be more closely attached to the organisational framework, etc. If this interpretation of educational processes is applied to vocational training, it reveals the complicated links which exist between schools and companies as 'technical organisations', and also that the two different rationalities coincide within the company-based training process.

This contrast emerges in the Taylorist-Fordist model in particular, which is also authoritative as a paradigm of industrial organisation for 'technical interpretation'. If the new ideas about company organisation are taken as the basis, however, with the buzzwords being Post-Fordism, 'lean production', 'lean management', flat hierarchies, self-directed work, etc, it can be assumed that the two opposing models will converge – companies could become more 'institutional', whilst educational organisations could also become more 'technical'. This development could be characterised by professionalisation and learning organisations. Human resource development can play a key role in these processes, and vocational training can act as mediator in such developments. In order to shed more light on these elements, attention must be focused on the interfaces between the educational organisation and the employment organisation; learning in the workplace, 'tacit knowledge', informal learning, and the learning society become important terms.

2. New policy strategies for steering VET systems

As a second step, the conclusions drawn from recent innovation research are tacked on to the conceptual analysis of coordination between education and employment. This brings a second axis into the picture, which has a dynamising and concretising effect at many levels, and also suggests new focuses for political strategies.

2.1 VET, innovation systems, and innovation policy

The basic question is how the concept of the innovation system can be integrated into the relations between education and employment. Essentially, two processes lie at the focus, production of knowledge and learning, which have been analysed in terms of their economic and social importance, and have been further developed into the concepts of the learning economy, or even the learning or cognitive society in connection with new, more general socioeconomic paradigms (cf. in particular, Lundvall and Borras 1999; see also Lassnigg 1998). The following new formats in the relationship between training and employment derive from the results of this research, and also refer to the problem of coordination:

- In the concept of the innovation system (Lundvall 1992; Nelson 1993) the processes and players which act as a driving force in economic and social innovation dynamics are made explicit. This makes visible the relations of interaction and cooperation which are being developed and becoming more intense between players in the education system (higher education in particular) and players in the employment system (e.g. development teams within companies). The processes of knowledge production for the development and constant renewal of the knowledge base are emphasised in terms of their crucial importance for economic activities in the course of technical-organisational revolutions and globalisation. Ideas about the division of labour between the players and institutions involved become blurred, the original linear model (basic research -> applied research -> industrial development -> application) is replaced by the model involving complex and contingent networking, in which completely different players can take on different tasks. This creates new or stronger direct interactions and cooperation on the innovation dynamics axis,

which may even extend beyond the original boundaries between part-systems.

- Learning takes on a new prominence in two respects within the employment system, firstly through learning processes in many ways becoming a necessary part of labour processes, and secondly through the productive, knowledge-producing character of learning processes as opposed to their reproductive nature coming to the fore (Argyris and Schoen 1978; Nonaka and Takeuchi 1995). Institutionally speaking, this development is expressed in the appearance and development of 'Human Resource Development' (HRD) approaches, which reflect the formation of a new training system within the employment system itself, which is also essentially based on the inclusion of informal learning processes.

- Within the education system traditional relations between the sectors (compulsory general education, higher education and vocational training), their functions and the predominant picture of learning within the sectors is reshaped. The duality between production of knowledge, which is institutionalised in the research role of higher education in particular, and the distribution of knowledge as part of the educational and training function comes to the fore and becomes more complicated[23]. Higher education loses its monopoly on the production of knowledge, and at the same time it becomes increasingly tied in with cooperative production processes, and extending access to knowledge production processes gains in importance. This gives greater and more universal importance to those forms of knowledge which were traditionally taught by higher education, and the question arises as to how to achieve better integration and dovetailing between the different sectors of education. The question of integration between vocational training in the formal education sector and developing vocational training in the company sector itself (HRD) arises in the case of vocational training on the basis of the new points of emphasis concerning necessary learning processes towards access to the knowledge-producing functions.

[23] Influential theoretical approaches to higher education research have distinguished the societal function of universities as a place for the production of knowledge and of 'cultural fiduciary' from their educational function, and brought it to the fore (cf. Parsons and Platt 1973; Kluever 1983; Stichwen 1991). Those functions were often neglected in the era of education growth, and even today the universities are frequently seen mainly as part of the education system. A new perspective came into being with the sociological analysis of the 'new production of knowledge', which in turn diminished the role of the universities in this context (cf. Gibbons et al. 1994).

2.2 Learning organisations and knowledge production

The first concrete point of reference for the development of new coordination and steering strategies to stem from the conceptual considerations on the role of innovation dynamics for the coordination system is the interplay between the learning organisation and the production of knowledge, with the consequent demands on training. The linkage of labour processes with different types of learning processes, which are aimed at further developing the production processes, lie at the heart of the different concepts of the learning organisation. In terms of ideals, this concept contrasts with the Tayloristic and Fordist concepts of manpower usage, which are based on the greatest possible standardisation and minimisation of qualification requirements, and strict separation of actual labour processes on the one hand, and of planning and development on the other.

Unlike the ideas of technological determinism, the development of learning organisations is seen not as a necessary, but rather as *one* possible strategy for using technological achievements to improve competitiveness against the background of globalisation. Achieving this strategy will demand organisational developments on the part of companies and backup for them through appropriate institutional framework conditions. One of these conditions is the availability of the necessary qualifications potential, and the mechanisms for further developing qualifications.

1. A first question for training policy concerns the development of learning organisations within the training system itself. This ties in closely with the development of forms of organisation which in the Taylorist and Fordist paradigm were shaped by the bureaucratic model, which also determines large areas of the training system.

2. A second question relates to the consequences on training policy of the growing importance of the knowledge base and the opening up of access to knowledge and to practices which produce knowledge. This question swings in very closely with the conception of types of knowledge and their dynamics. The distinction between codified knowledge and tacit knowledge which is closely connected to the linkage of informal learning and formal learning processes, and Bengt Ake Lundvall's classification (know why, know what, know how, know who), as well as certain dynamics between these forms of knowledge are central concepts in this context.

The new ways of looking at knowledge, learning and organisation are an essential link to training policy. The theories developed about knowledge refer to the older but long little-heeded distinction drawn by Michael Polanyi (1958) between explicit (codified and media-transferable) knowledge and tacit knowledge: knowledge which one possesses but which cannot be transmitted in words. The essential point is that practical uses of knowledge usually include a component of tacit knowledge; tacit knowledge stands out in that it

- is embodied in people and
- tied to the practical context,
- so that it can only be passed on and learned in social processes.

This brings with it essential consequences for the social organisation of production processes, because learning and qualification are thereby given a new value. Because the value of *tacit knowledge* is rising in the course of the information explosion with increasing availability of codified knowledge which can be mechanically transmitted, the social organisation and the institutional structure of the employment system take on a key role. From this point of view, the use of information technology is an indispensable means for keeping pace in the innovation process, but at the same time this is not enough for particular achievements where the stage of codification and the creative use of codified knowledge play a decisive role.

The implications for the development of qualifications and skills can be exemplified in the two dimensions of different forms of knowledge and the dynamics of the transition from *tacit* to *codified* knowledge. Three essential trends stand out in particular:

1. the *know why*, which can essentially be characterised through scientific, theoretical knowledge, increases in importance compared with *know what*;

2. the ongoing renewal of know how and know who becomes the most important factor in economic success;

3. the further development of networks which can provide access to the knowledge required becomes a further decisive factor of success.

From the point of view of training policy, three challenges emerge in particular:

i. the further development of organisational forms;

ii. the linking of formal and informal learning processes; and

iii. moving beyond the strong focus on know how and know what in favour of putting greater emphasis on the other forms of knowledge (know why and know who).

2.3 Networking and policy learning

A further point of departure for developing new strategies of coordination and steering comes in the development and structuring of organisational links between the players in

the coordination system under the buzzwords networking and policy learning. An analysis of the innovation system reveals the complex interactions which exist between a great variety of players, although in this concept the education system tends usually to be analysed purely in terms of higher education's function of producing knowledge, with the vocational training system being excluded. But this point of view is not logical, since it implicitly limits the role of vocational training to the traditional reproductive elements.

Thus the question arises as to how a new configuration of the players can also lead to more active involvement of the vocational training system in innovation dynamics. This question concerns the background to professionalisation in the field of vocational training, and can be asked at various levels:

a) at actor level: which players bring about coordination between education and employment, and which players provide the link to the innovation system

b) at the organisational form or coordination mechanism level: what role is played in this context by the organisational forms beyond bureaucracy and market, which were recognised as essential components of innovation dynamics (in particular networks and corporate associations) and

c) at knowledge base and policy learning level: which mechanisms for the further development of the knowledge base exist within the coordination system itself, or at the interface between the coordination system and the innovation system, and how is this reflected in the specific links with the political decision-making system.

These elements provide the conceptual background for an analysis of professionalisation and the professional categories in the field of vocational training.

2.4 Adaptation and shaping

Finally, it has to be asked what vocational training's influence and scope for shaping could be in connection with economic and social innovation dynamics[24]. In the conventional discussion, coordination between education and employment, particularly when vocational training is being discussed, tends to be synonymous with reactive adaptation, the main problem stemming from the exactitude and speed of this adaptation.

From an institutional point of view, this method of tackling a problem is based on a naive understanding of the basic structure of the coordination problem, which on the one hand gives an elliptical interpretation of the role of vocational training, and on the other hand hypostatises and reifies the employment system at the same time. The basic pattern for this traditional line of argument is that the shaping of vocational training should track 'real' developments in the field of employment as closely as possible – however it overlooks the basic premise of institutional thinking on the education system, that the institutionalisation of education in turn contributes to the social construction of reality (cf. Meyer's classical contribution 1977).

This line of thinking means that the understanding of professional activities, and in particular the social understanding of professions themselves, is in each case essentially constituted by the respective vocational training system and the knowledge base which lies behind it. This aspect comes across clearly in the analysis of the professions and professionalisation, where these arguments emanate from the professionals themselves. In the other less obvious areas, where this 'subjective' factor tends to be left in the background and reality is constructed by other players or in the political system, this aspect is less clear. Therefore within institutional thinking the old question as to whether training policy should be given a reactive or a proactive slant is redefined in two respects:

[24] This question was also one of the basic questions behind the EUROPROF project which focused on the possibility of professionalisation of VET professionals: Leonardo-da-Vinci project No 3366 'New forms of education of professionals for vocational education and training' (EUROPROF); cf. Also Heidegger 1997, Rauner 1995.

a) it is not a question of recognising the 'real' occupational challenges, but rather of constructing suitable profiles; and

b) it is not so much the temporal dimension, i.e. whether 'reality' is pre- or post-ceded which stands in the foreground, as the conceptual question concerning the relationship between the endless multiplicity of 'real' occupational activities on the one hand, and the institutional ways in which they are organised, and the question of reshaping and changing these forms on the other hand.

Proactive shaping thereby becomes first and foremost a problem of conceptualisation of the employment and occupational system. The conceptualisation which the players have of the vocational training system itself, and to what extent they can control the knowledge base of their own professional or occupational field thereby takes on a central role.

3. VET professionals and steering mechanisms

In the third stage, the 'VET professionals', that means the various categories of qualified employees within the vocational training systems, are studied in terms of their role within the coordination and steering system. This analysis draws on material which was collected in the course of recent European projects (in particular Cedefop 1995a, 1995b, 1997, as well as EUROPROF), and interprets this material within the conceptual framework just mentioned. Since there has never been a tradition of comprehensive comparative analysis to date, and the scale of the actual project cannot do justice to the many different structures within individual vocational training systems, the evidence is limited so far, which means that the generalisations drawn are therefore open to further differentiation and investigation[25].

[25] The influence of the Austrian system on the author doubtless also plays a certain structuring role which may sometimes put a specific emphasis on certain points, which would not appear under other circumstances.

The term 'VET professional' is frequently used in relevant discussions. It might however be useful to briefly discuss this term as it gives rise to some lack of clarity. Initially, high-status occupations with considerable power were described as professions, with the following characteristics usually being attributed (cf. e.g. Torres 1991; Alisch et al. 1990):

- specific expertise or knowledge base, which tends to be closely related to a specific scientific discipline;
- a system of regulation and control, within which the processing of a specific occupational area is reserved specifically for this profession by the state, and which is subject to auto-control;
- a specific code of ethics which provides the basis for auto-control, and in conjunction with that a special system of values;
- a type of self-organisation which also regulates access to the profession, and special training as well as certain practical requirements.

It is easy to see that professional groups of educators fulfil very few of these criteria. 'VET professionals' usually even less so than other categories of teachers and trainers. The consequence of this was that teachers were classed as a *semi-profession* (Etzioni 1969; cf. also the early twist of meaning of the term into 'bureaucratic professions' by Leggatt 1970, p. 160).

Since then, attention has shifted to focus more closely on the process of creating and developing professions, definitions were made more flexible, and the dissociation from other forms of professional work is seen these days in a less absolute, more fluid way (Abbott 1988). It is particular discussions about the definition and control of a certain occupational field and the institutionalisation of a specific knowledge base as a basis for legitimisation of occupational autonomy which have come to the foreground (Di Maggio and Powell 1991).

Two aspects should be stressed in the development of and research into professionalism for our purposes:

43

Firstly, the connection between professional work and work in bureaucratic organisations, and, secondly, the content of professional work. Professional work in the strictest sense of the term was originally seen in contrast to work in bureaucratic hierarchies as exclusive, and consequently the spread and predominance of Taylorism and the Fordist model in the sixties and seventies led to an image of 'de-professionalisation', with some people even talking of the 'proletarisation' of professions. Professional forms of work, however, proved more able to survive than had been predicted by this research, with new production concepts and the post-Fordist paradigm in particular stressing requalification and re-professionalisation – nowadays it is the relationship between professional work and bureaucratic hierarchies which is being studied. 'The dominance of bureaucratic hierarchies is over', writes Lynne Zucker succinctly, for example (1991, p. 160), in her study of the interplay between 'bureaucratic authority' and 'expert authority'. Different forms of complementarity and interplay which can be studied in more detail in the system of vocational training and coordination between training and employment have taken over from the dichotomy and exclusion between hierarchy and profession.

The second aspect, the content of professional work, was largely ignored by classical sociological research into professions. Recently major progress has been made, which is based on similar access to the innovation research sketched out above. Michael Eraut's book (1994) about the development of professional knowledge and skills is a milestone with direct reference to the teaching professions. The link with innovation research is provided by the study of professional work in management in relation to the development of learning organisations and the related learning processes in the interplay between forms of knowledge, between tacit knowledge and codified knowledge. Professional work stands out particularly due to the great importance of the implicit components, which implies particular conditions and also difficulties in shaping formal training for learning these qualifications.

3.1 Main categories of VET professionals and their roles

The starting point for analysis of the most important categories of 'VET professionals' is a vague definition, which is based on observation of the most important functions in the vocational training system. Here, the conception of the vocational training system as expressed above should be taken into account: firstly, the relative autonomy in terms of other sectors of education (elementary and higher), and, secondly, the relative overlapping with the employment system. The professional categories responsible for vocational training are spread across the different organisational spheres, they work in formalised state or private educational establishments, in companies, are self-employed, etc. This applies to those areas where 'VET professionals' are employed.

Contrasting vocational training (VET) and Human Resource Development (HRD) can be very productive for the purpose of understanding jobs, roles, functions and positions[26], since there is a highly differentiated analysis of roles and positions in the HRD field.

3.1.1 HRD practitioners and their roles

In contrast to the dominant role of teachers and trainers in vocational training, this classification covers a much broader spectrum of roles and duties. The activities leading up to the construction of the *American Association for Training and Development* (ASTD) were an important step towards the professionalisation of the HRD field, with systematic investigations and developments of the roles and functions of HRD practitioners being un-

[26] A distinction is drawn in literature between two approaches to the analysis of elements which make up job profiles: the more European approach (task analysis) which refers to activities, and the more American approach of role analysis which refers to outputs. Carrying out tasks or roles requires specific competences which represent a level of analysis unto themselves. Certain professional positions can be made up of specific combinations of tasks or roles which demand specific competencies for them to be performed (cf. de Rijk and Nijhof 1997).

dertaken since the eighties. In the nineties, this approach was put to good use on a broader European scale, particularly through the activities of the University of Twente.

The classification of HRD roles in the USA (McLagan and Suhadolnik 1989, p. 20) is important in this context:

- Marketer
- Needs Analyst
- Researcher
- HRD Materials Developer
- Organisation Change Agent
- Instructor/Facilitator
- Programme Designer
- HRD Manager
- Administrator
- Individual Career Development Advisor
- Evaluator

Various studies considered the usability of this classification in the analysis of European HRD practitioners (cf. de Rijk et al. 1994; Valkeavaara 1996, 1998; Odenthal and Nijhof 1996). Similarities and differences emerged with the US structure, which in turn can be seen to be in motion (McLagan 1996)[27]. The European surveys, which are possibly distorted by sampling errors and the small sample size, tend to coincide on a high dominance of the following four roles, with the Instructor/Facilitator role being ticked by 85-95% of respondents:

- Instructor/Facilitator
- Programme Designer
- Organisation Change Agent
- Needs Analyst

The other three roles in the above order were ticked by 50% of respondents in Germany, and they were also frequently mentioned, although in different configurations, for the other European countries looked at. The following roles from the ASTD classification were much less frequently ticked by participants (e.g. in Germany by a maximum of one third of respondents), and can be seen as more highly specialised roles in Europe:

- HRD Materials Developer
- Marketer
- Individual Career Development Advisor
- Evaluator
- HRD Manager
- Researcher
- Administrator

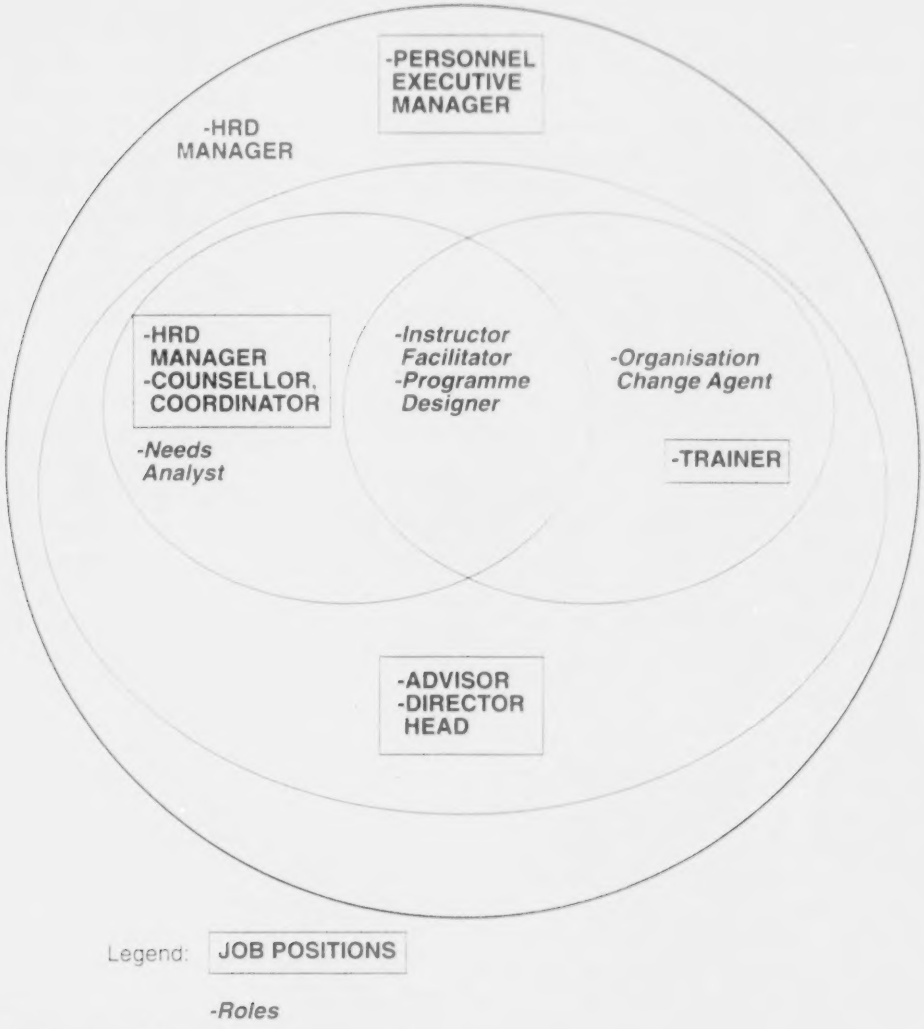
Once again, there are different degrees of emphasis on these various roles from one European country to another: in Ireland and England, the roles of HRD Manager and Administrator were regularly ticked, whereas in Germany HRD Materials Developer, Marketer and Individual Career Development Advisor and Evaluator are the most frequently encountered specialised roles; in Italy, Individual Career Development Advisor and Evaluator were mentioned comparatively rarely; in England, Research and HRD Materials Developers play a comparatively more important role.

The job titles which are given to the different roles were also established. The most important headings proved to be:

- Trainer
- Advisor
- Training or HRD Manager
- Director or Head
- Personnel or Executive Manager
- HRD Coordinator, Counsellor
- Researcher

[27] The 1989 role structure is revised for a new study of HRD roles in the USA, which on the one hand takes more account of organisation development and consultants, and on the other hand suggests more complex role definitions which are more closely related to organisational dynamics: e.g. HR Strategic Adviser instead of the different roles of Marketer, HRD Manager and Administrator; or HR Systems Designer and Developer and Learning Program Specialist instead of HRD materials Developer and Program Designer; new roles are Organisation Design Consultant and Performance Consultant, the original specialised roles of Evaluator and Needs Analyst are absorbed into the more complex new roles; only two of the original roles remain unchanged (Instructor/Facilitator and Researcher), and two more are still couched in similar terms (Organisation Change Agent, but with a stronger emphasis on the outside as Consultant; and Individual Career Development Adviser but with a sharper separation between development and career as Individual Development and Individual Career Consultant (cf. also Odenthal and Nijhof 1996, pp. 88-89).

Figure 6: HRD Roles and self-reported job positions of German HRD personnel



Source: Odenthal/Nijhof 1996, 69, Tab. 4.23 (Figure design by the author).

More detailed analysis of the most important roles and the duties and output of the different headings reveals a large degree of overlapping between the job titles (see the two diagrams based on Odenthal and Nijhos' surveys 1996; and de Rijk and Nijhof 1997).

Closer consideration of the empirical distribution of roles amongst German HRD practitioners produces the following picture (see Figure 6): there are four overlapping types of job titles, each of which has to carry out similar duties: Trainers (41%), HRD Managers, Counsellor-Coordinators (20%), Advisors, Director-Heads (26%), Personnel or Executive Managers (4%). All these headings have the *instruction/facilitation* and *programme design* roles in common, carried out by more than two thirds of practitioners. These can be seen as a core function. Trainers also act as *organisation change agents*, whilst HRD Managers and Counsellor-Coordinators in addition to their core functions also perform *needs analysis*. Advisors and Director-Heads perform *all the roles mentioned* (the small group of Personnel or Executive Managers

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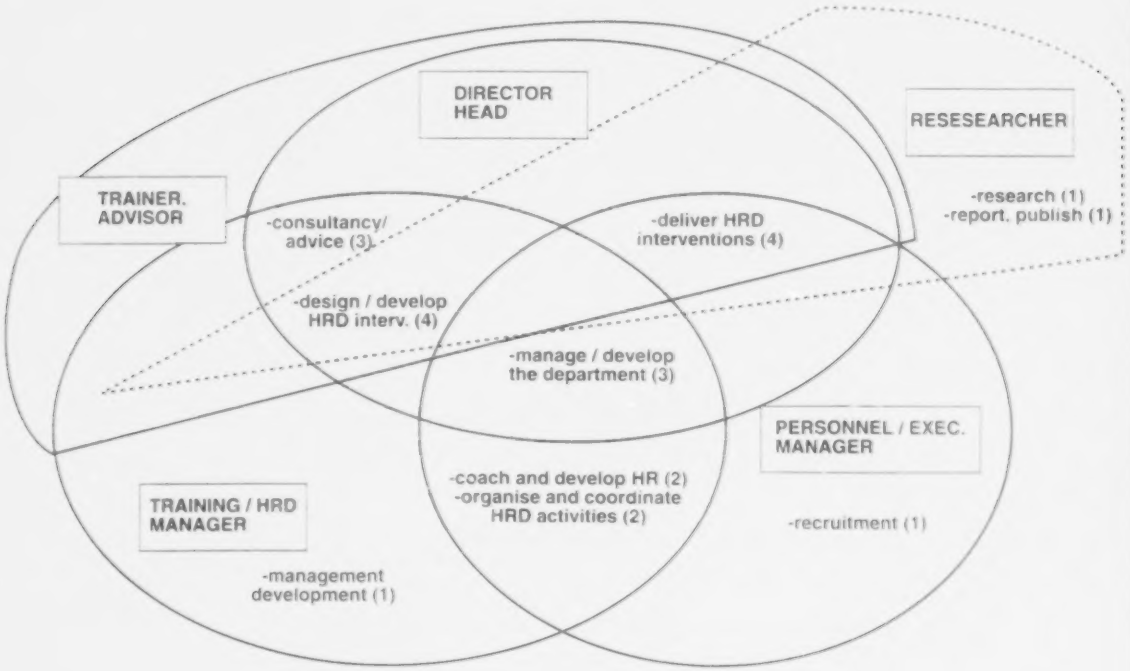
Figure 7: Self-reported tasks job positions of European HRD personnel



Legend: JOB POSITIONS

-self reported tasks (#indicating No. of job positions which have that task in common)

Source: de Rijk/Nijhof 1997, 8, Tab. 3 (Figure design by the author).

also performs the role of HRD Manager, which would appear to be redundant).

The most important duties performed by European practitioners in the course of their work were also surveyed (see Figure 7). Here, once again, there is a lot of overlapping between duties. Six out of ten categories of duties are regularly mentioned in more than two headings, including two duties in four headings (design and develop HRD interventions; deliver HRD interventions), and two duties in three headings (consultancy/advise and manage/develop the department). Only four of the ten categories of duties were more regularly ticked specifically for certain headings (recruitment, management development, research, report/publish).

In conclusion, two task areas or roles provide the focus of activity for European HRD practitioners: Training/Facilitation and organisational change agent. On average, for the four European countries, a quarter of respondents indicated these roles as being the most important; in Germany the most important role focused more heavily on Instructor/Facilitator (41%) than on change agent (13%). Despite the high proportion of direct teaching activity or learning support, the activities of HRD

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personnel are quite closely tied in with the organisational development processes. For example, there are no major differences between internal and external HRD practitioners as regards their professional activities.

3.1.2 Categories of professionals in VET

If we now take a look at the division of labour between different professional profiles in the area of formalised vocational training (VET) as compared with these occupational roles and headings in the HRD field, there are some empirical studies into the different categories of teachers and trainers in particular. The comparative Cedefop study on *Teachers and Trainers in Vocational Training* (Cedefop 1995a, p. 15, 1995b, p. 12; Cedefop 1997) initially distinguishes between three basic types of 'VET professionals':

1. Technical and vocational teachers;
2. Full-time trainers; and
3. Part-time trainers and temporary trainers.

The five basic stages of the training process are put forward as additional important functions in the field of vocational training, which can also provide a basis for developing particular professional profiles. 'In those countries where training is more developed and has a longer tradition, it is possible to establish a second means of classification based on the function fulfilled by the teacher or by the trainer (...) there are five basic stages in the training process, around which new occupational profiles are emerging: mainly needs analysis and design, organisation of the training, the design and drawing up of the didactic material, the training itself, and evaluation. Around these functions, new areas of expertise are becoming apparent. They are related to education and training management and the organisation and planning of teaching.' (Cedefop 1995b, pp. 12-13)[25].

[25] This functional analysis, based on the training cycle, also underlies the British approach to skill development from the time of the Industrial Training Boards until the developments in the Training and Development Lead Body (Cedefop 1995a, pp. 157-158, p. 171).

A somewhat modified classification of six different functions in the vocational training field, which is more closely adapted to professional categories in vocational training systems is provided in Cedefop 1997:

- 'tutoring (tutor, coach, guide, master);
- teaching (teacher, trainer, instructor);
- counselling (counsellor, consultant);
- development (developer, designer);
- management (training manager, principal, director);
- policy-making' (Cedefop 1997, p. 15).

A comparison of the two types of classification, that in the HRD field on the one hand, and that which has just been presented for VET on the other, reveals one fundamental difference: in the HRD field we are dealing with complex profiles, which are often directly related to management and guidance functions, whilst in the VET field there is a segmentary division which is typical of Taylorism and Fordism. Teaching and support functions tend to be quite distinct from the other functions such as analysis, planning, development, design, evaluation, etc. The more organisational tasks are usually carried out outside the actual training organisations within the administrative superstructure, often even outside the education sector in the area of the political and corporative organisations of interest groups. This pattern corresponds to the model of bureaucratic organisation.

Studies on teachers and trainers in vocational training in the countries of the European Union produce a basic pattern in which the areas of vocational training schools as well as apprenticeship and other forms of vocational training, which are more deeply rooted in the employment system (e.g. labour market training), overlap with the HRD field. In the school sector, there is a great deal of regulation, supervision and information, but much less in the other areas. Thus, for example, it was not possible to find comparative figures for the different categories of trainers and tutors. Some important findings from the comparative Cedefop 'cartographic' studies were:

- Division according to the basic groups of teachers, full-time trainers and part-time/temporary trainers was largely reflected for the different countries (there is little information about tutors, a category which seems to merge with that of trainers).

- The teacher category is closely related to the structure of the respective vocational training systems. In many countries this is highly regulated, differentiated or fragmented, which is reflected in the structure of teachers and their training system (particularly obvious in France, for example). If the vocational training sector is less regulated, there is a greater range as well as less pronounced structures in the educator area (e.g. in England, where at the same time the clearest points of linkage of VET and HRD are to be found).

- Usually educators tend to be referred very specifically to a subject, which can be either general or occupational, or technical. There are often various levels of educators, sometimes linked with types of schools at different levels. Moreover, in the area of vocational training subjects there are more theoretical (higher value) and more practical (lower value) categories of educators with different training pathways. Training of staff for the general subjects usually takes place at higher education level, whilst this is less often the case for staff for vocational training subjects. Educators for practical subjects often have vocational training on the middle level (skilled worker).

- In most countries educators for professional subjects, most of whom have had to go through relevant training at higher education level, are required to have several years' practical experience in industry (England is an exception, for example, where there is no regulated professional training for these staff, as is Italy). In many countries there are ongoing discussions as to whether the emphasis of teacher training for professional subjects should be placed more on the pedagogical or on the practical-occupational side. This type of discussion is taking place in Germany, for example, and also in Switzerland for the staff in (part-time) vocational training schools (cf. Bader and Hensge 1996; Ruetzel 1996; Straumann 1996).

- Whilst there is a good level of information in the teacher field, the information base for trainers is very poor in all countries. A distinction is often drawn between trainers within companies on the one hand, and trainers in extra-school institutions for vocational training, which usually fall within the scope of responsibility of labour market policy. Occupational training programmes for disadvantaged young people are carried out in this area in project form, but the institutions are planned for both young people and adults. Specific rules on qualifications usually apply to these trainers, but it is rare to come across any specific training requirements (in Italy, for example, there are exhaustive job descriptions in the framework of collective contractual regulations).

- A further category of trainers who are covered by rules are the in-house company trainers in apprenticeship systems. In this field once again, a large proportion of trainers do this as a sideline without being trained, and trainers are expected to lean more heavily towards the practical side, with pedagogical requirements playing a back-seat role. In Germany, for example, a large percentage of employees – one in six according to estimates – is involved in training, but most of them minimally so and as a sideline (around half of all trainers only for a few hours, and less than 10% devote more than half their working hours to training; cf. Neubert 1996).

- The structures for training and further training of trainers tend to be vague and complex, and are often rooted in the market economy sector. Although efforts are made in the training establishments linked to labour market policy to take as much account as possible of economic requirements, there are all the same considerable differences between the training establishments and the in-house training processes. (Per-Erik Ellstroem 1999 describes these

differences between a 'factory culture' and a 'learning culture' and the tensions related thereto using a comparison between training on the labour market and the Swedish 'employer-sponsored training').

- One important characteristic of teachers and trainers in the vocational training sphere is that they belong to two professions: on the one hand their own area of expertise, and on the other their role as educators. Usually the lion's share of their training has been with reference to their field of expertise, with training for teaching activities amounting to very little[24].

3.1.3 Patterns of division of labour among VET professionals

The role of these various categories of teachers and trainers in the overall division of labour for 'VET professionals' has been studied even less than the relations between the categories themselves. A general overview however gives an initial impression of the complexity which reigns in this field.

3.1.3.1 The Austrian picture as an example

Some of the questions and problems in this field can be sketched out using a stylised picture of the different types of 'VET professionals' in the Austrian system (Lassnigg and Stoeger 1999; Lassnigg 1999a). By comparing different areas from the whole scope of vocational training, it is possible to draw a distinction between 'old' and 'new' professionals. The 'VET professionals' in the formal vocational training system can be broken down into four categories of 'old professionals':

- Teachers, trainers, tutors;
- Administrators, principals, managers;
- Politicians, lobbyists;
- Researchers.

There are three areas on the other side of the balance which lie outside traditional vocational training:

- HRD in the company sector and on the market for consulting;
- adult education (incl. further training, labour market and in-service training);
- a new area of intermediate organisations (centres for innovation) which have no direct training function as such but play an important role in providing incentives, triggering innovation and playing a coordinating role.

These categories of 'VET professionals' live and work in different 'worlds', are not particularly coordinated and sometimes even work against each other. There are, for example, lines of conflict between the different players in the apprenticeship system, between employers' representatives and employees' representatives, and between the public and the company part, with vocational training teachers, company trainers, administrators and decision-makers all being involved. In-house trainers, who make up the largest group of 'VET professionals' and are obviously at the very centre of the vocational training system, generally tend not to be defined as 'VET professionals', because their training activity usually takes place on an informal and part-time basis, beneath their 'normal' work – most of them would not consider themselves to be 'VET professionals' either (Lassnigg 1999a; Lassnigg and Steiner 1997; Lassnigg and Schneeberger 1997). A further line of conflict exists between schools providing initial training and adult education organisations. In this area, a bureaucratic system confronts a system organised according to the market. Apart from the actual genuine differences, this also gives rise to a lot of prejudice which is often blown out of proportion in public discussions. There are lively discussions, for example, about regulating adult education more strictly, countered by arguments about bureaucratisation and cost increases (cf. Ofner and Wimmer 1998, p. 164-167).

Given the extent of regulation and bureaucratisation and the lines of conflict and problems of coordination which have been men-

[24] This corresponds to a certain extent to the paradigm of teachers in higher education as conceived in Humboldt's principle of 'Education through Science': 'anyone who has a scientific grasp of his subject can also teach it' (orig. German: Thonhauser 1995, p.115; cf. also Stinchcombe 1990).

tioned at political level, *top-down* processes of steering and coordination come strongly into their own, and it is not easy to find examples of *bottom-up* mechanisms. Looking at the formal mechanisms of the decision-making processes in particular, there are no *bottom-up* processes to be seen, as they tend to exist on an informal basis in the preparation of decisions, in working parties for drawing up materials, through rolling different functions in different categories of players into one (personal union), etc. These types of 'personal union' are of particular importance and can be shown on the basis of two examples:

Example 1: In the apprenticeship system, most of the companies are either small or very small. Normally in these companies the owner, the company manager, the person responsible for training and probably also the trainer him or herself is one and the same person. In the past, these people tended to have gone through apprenticeship training themselves. This meant that at the same time as acquiring their own professional skills they also implicitly picked up the training practices of the time. Another example in this field is that the members of professional organisations, who at the lower and fragmented level are also responsible for steering apprenticeship training, also come from this group.

Example 2: In the vocational training school system, once they have qualified in their professional subject, teachers of professional subjects are expected to spend several years gaining practical experience before they can enter the teaching profession and then complete training in parallel to their work. As a result, a considerable proportion of these educators are professionally active in their own specific field as independent company owners or as employees, at the same time as working at the school[10].

From the point of view of 'VET professional' profiles, these links clearly show on the one hand what interconnections really can exist between vocational training and employment in the company sector, even if this may not become apparent from a formal consideration of professional categories. On the other hand, these interlinkages also raise questions about the professional identity and professionalisation of these 'VET professionals'. It is a question of using and developing this resource of 'practical experience' on the one hand, and of the professionalisation of training functions on the other.

The example of 'personal union' in the apprenticeship field makes it clear that basically we are dealing directly with ways of passing on tradition, both in terms of training and also in terms of company practice as a whole. How can there be innovation within this model? The essential link here will no doubt come in the form of innovation of company practice, driven by external factors. Not only would 'pedagogical professionalisation' in the traditional sense of the term be of no use here whatsoever, but it would actually be completely out of place. At the same time, it is absolutely clear that trainer-entrepreneurs have a key role to play in the further development of this sector.

If the situation in apprenticeship training in small companies is linked to the concepts of innovation dynamics and the learning organisation, but also with the importance of the knowledge base, the production of knowledge and the difficulties related to the productive organisation of informal and implicit learning processes, it becomes clear that the resource composed of rolling practice and learning into one still faces major challenges. Progress will depend on the extent to which it is possible to create learning organisations and to link informal and implicit learning processes with formal and explicit ones, as is being attempted through model trials in Germany, for example (cf. Dehnbostel and Uhe 1999; Dybowski et al. 1999; Dehnbostel et al. 1998). The essential question here is whether it is professionalisation along the lines of 'formal pedagogisation' through a strenghtening of the extra-company and formalised public elements of training (extension of compulsory part-time schooling, provisions governing the

[10] In exceptional cases, top managers also perform teaching activities; in filling top positions in schools, it is also feasible that this type of experience could be drawn on. (cf. Lassnigg and Stoeger 1999).

51

content of training and resources, etc.) which is sought, or whether apprenticeship training can be successfully linked with HRD processes, or this type of process actually established in the first place. And for the part-time vocational training school, how can the mechanisms of informal learning be applied?

The example of parallel employment in the vocational schools raises the question as to the extent to which practical experience can be used for the purposes of school learning and teaching processes, and also for school organisation. Several factors are of relevance: firstly, the quality of practical experience, i.e. how much usable impetus does it actually provide for school practice; secondly, the school's absorption capacity for such impetus, bearing in mind the formal types of organisation, i.e. to what extent do provisions governing curriculum implementation or the structure of hierarchical relations of authority actually leave scope for this impetus; thirdly, the absorption capacity in terms of social relations in the school, i.e. the extent to which relations between teaching staff allow informal exchange of knowledge in different dimensions.

The professionalisation of 'VET professionals' in the traditional sense of the term would mean that pedagogical qualifications, in particular for the Training/Facilitator role would be beefed up. This can be seen directly through the discussions on the educational level of training (university, institute of higher education, intermediate level) and about strategies of 'front-end' training of educators (teaching qualifications before specialist qualification) versus 'add on' training of educators (teaching qualifications in addition to basic specialist training). In straightforward terms, the thrust of basic training strategy aims at bringing educators in the vocational training field into line with teachers in general education, and developing a general professional profile, which is oriented towards teaching activity[11]. The effectiveness of these different strategic lines, which is often discussed in very abstract terms in the field of education policy, could be investigated using probing comparative studies between different models which have long been in application, including in their broader contexts[12].

The various different strategies trigger a series of questions which predominantly concern the organisational dimension of the education sector: firstly, how is the relationship between general education and vocational training institutionalised in the education system, and how does this influence links with the company sector of employment? Secondly, to what extent does the professionalisation slant given to the standardisation of teacher categories on the pedagogical dimension strengthen the existing segmentary (bureaucratic and politicised) organisational structure of the education sector, with its separation of teaching-learning processes from decision-making processes? Thirdly, what does the development of 'leapfrog' academicised teacher training mean for the development of the knowledge base in the respective specialist area? Fourthly, what conditions

[11] The concept of 'front-end' training also contains further distinctions depending on whether the vocational and the pedagogical components are arranged in parallel or consecutively. The description of the profile '*Senior Teaching Post at a Vocational School*' (German: Hoheres Lehramt an beruflichen Schulen; cf. Bader 1995) is an example of the focus on professionalisation for a general teacher profile. The general professional profile for the teaching profession was established in the following terms by the German Educational Council (Bildungsrat) structural plan in 1970: teaching, educating, advising, assessing, innovating (Deutscher Bildungsrat 1972, p. 127).

[12] An example could be a comparison of the different training models in the Austrian context for the economic-administrative field ('Economics – Teacher Training Course': university, 'front-end', consecutively, practical requirement) and for the technical-commercial area ('Vocational Teacher Training College': relevant basic subject studies, practical experience in the occupational subject field, recruitment for teaching profession, short non-university day-release teacher training); initial tentative comparisons in the framework of the EUROPROF project (Lassnigg and Stoeger 1999) pointed out important differences regarding the development of a knowledge base for innovative practices; a further possibility would be to compare the German, Austrian and Swiss training for teacher training provided in (part-time) vocational schools, where there are some major differences.

Figure 8: Stylised pattern of roles and professional categories in Austrian VET

	"OLD" PROFESSIONALS VET System			"NEW" PROFESSIONALS Other Frameworks			
	Teachers Trainers Tutors	Administrators Principals Managers	Politicians Lobbyists	Researchers	Adult Educ.	HRD	Inter-Med.
Common roles							
Instructor/ Facilitator	XXXXX	X			XXX	XXX	
Programme Designer	XX	XXXXX	XX	X	XX	XXX	X
Org. Change Agent		XXXXX	XX	(X)		XXX	XXX
Needs Analyst		XXXXX	XXXXX	XX	X	XXX	XXX
Specialised roles							
Materials Developer	(X)	XX			X	X	
Marketer		(X)	XXXXX		X	X	XXX
Indiv. Career Devel. Advisor	X					X	
Evaluator (Inspector)		XXXXX	XXX	XX	X	X	XXX
HRD Manager		XX				X	
Researcher				XXXXX		X	
Administrator	X	XXXXX			X	X	

a) The counselling function is mainly performed outside the VET system within the labour market organisations; within VET the teachers perform these activities.
b) Personnel in HRD, further education (F-E), intermediary institutions (INT).
c) The functions of development are performed mainly in this category.

arise for the development of learning organisations in the education sector in connection with different training strategies, and what points of linkage are there with the HRD field?

Finally, the study of the profile of 'VET professionals' can summarise the most important characteristics and aspects of the division of labour in this field using a stylised comparison of HRD roles and categories of 'old' and 'new' professionals in the Austrian example (cf. Figure 8):

1. Firstly, categorising 'VET professionals' broadens the traditional focus which concentrated on educators (teachers, trainers, tutors) to include the wider organisational professional categories. In so doing, it becomes clear that the professional demands in the area of training organisation also cover a broader scope of functions and categories than it would appear when viewed from the point of view of professionalising the teaching profession.

2. Secondly, the cross-classification of VET professionals and HRD roles shows that in spite of their completely different field of application (economic organisations) and completely different aim (implementation

of company strategies) the latter can still reveal important aspects of professionalisation in the education sector. What emerges in particular in the formal education system is the segmentary distribution of the various roles in different contexts (administration, politics), and it becomes clear that there is overlapping with the development of learning organisations: firstly, training organisations can themselves be conceived as learning organisations, and secondly training also plays an important role for the development of learning organisations in the business sector.

3. The distinction between the contexts of the formal education sector and HRD fields, adult education and the intermediary organisations sheds light on the different configurations of 'old' and 'new' professional profiles: roles are matched to the various vocational categories amongst the 'old' professionals, with teachers teaching, administrators administrating and developing, politicians taking decisions, researchers carrying out research, etc.; the 'new' professionals have more complex role profiles, only in adult education is there a similar segmentary division of labour between those teachers – most of them on an in-parallel basis – who also do programme development, and a very restricted group of people in management. There are also some similarities between the different categories of 'old' professionals and the new context, between educators and adult education, between Administrators/Managers and the HRD field (with the difference that the latter are more active in the direct teaching-learning processes), and between politics and the intermediary organisations.

This stylised pattern, which needs to be looked at in greater depth by further research warrants a few additional comments. Administrators-managers have a complex role profile and concentrate a very important strategic function in their field. This corresponds to the bureaucratic model, but it should be stressed that this category of 'de facto' professionals is not usually taken as such. With the exception of more recent attempts at professional preparation of school heads, there is next to no training for these categories. Legal training continues to play an important role in administration, and to some extent this is a case of promotion positions for teachers, which are still often filled according to political criteria. The organisational context of the 'new' professionals is less bureaucratic and demands more complex profiles, which are necessitated by the fact of working in a more flexible environment. Linking learning functions with organisational activity in development and planning raises the question as to how useful similar combinations might be amongst the 'old' professionals.

3.1.3.2 Observations and perspectives from other countries

The experience and results of research into the division of labour between the different categories of VET professionals were processed in the EUROPROF project and reveal some similar basic patterns and tensions (cf. in summary in particular Attwell 1997a; Heidegger 1997; cf. also Brown 1997; Heikkinen 1997a). The two 'worlds' of vocational training in the school and education sector (VET) and the HRD field in the employment sector emerge in rather clear fashion, and there is a converging trend in the distribution and awareness of the different roles. Graham Attwell (1997a, p. 261) describes a simultaneous process of convergence and divergence for both sides – VET and HRD – which has the following characteristics, to the effect that 'for both, their main role is becoming the management of learning':

- extending the role of 'VET professionals', mainly through increased activity in the field of further education (developing new programmes for new groups of learners);
- greater involvement in processes of organisation learning (linking learning with labour processes);
- increased concern for training and further training of the unemployed (counselling, development and organisation of new programmes);

- new roles in the management of learning processes as a result of decentralisation processes in vocational training;

- increased emphasis on context-related learning and learning in the workplace leads to a shift of activities from traditional teaching activity in the classroom to activities involving the shaping of learning processes in practice (mentoring, coaching, simulation, support, etc.).

A few examples of specific developments could serve to illustrate this general trend. Studies in France have revealed that role extension is occurring not only in schools, but also in the area of further training (de Bligniere 1997). In the early seventies activity focused on teaching in the training organisations, in the late seventies it was extended to include the functional analysis of jobs, training needs analysis, and the implementation and evaluation of training in companies. Alongside this extension towards activities of training management, a countertrend involving the specialisation of individual new roles is now taking place. Reforms in vocational training in Spain since the early nineties have meant in particular that new players have been more involved in the administrative and political fields (social partners, regional administrations, labour administration, etc.), and have done away with the monopoly of the vocational training school system which was seen as increasingly inefficient (Cellorio 1997). Similar trends towards greater involvement of external 'VET professionals' from amongst the social partners and the regions can be seen in many countries including Denmark, the Netherlands, Finland, the United Kingdom, etc., accompanied by relatively pronounced professionalisation (Nielsen 1996; Santema 1997; Heikkinen 1997a, b; Shackleton et al. 1995).

One important question concerns the position and duties of teachers in the vocational training schools, as well as trainers in companies. Teachers are often seen as a central category, which should act as the 'spearhead of change and progress in teaching and learning processes' (Attwell 1997a, p. 258; Papadopoulos 1994). It is generally felt that an extension and adaptation of their role and function would be desirable, but there are considerable contradictions attached. On this point, the studies in the EUROPROF project refer to different experiences in various countries. Vocational training policy in Finland tried to extend the teachers' activity profile, but this did not prove entirely successful. Anja Heikinnen (1996 p. 11) quotes the dissatisfaction of one educator: '*...it seems that teaching has become peripheral*'. At the opposite end of the scale, a study in the Netherlands shows that teachers are very much involved in non-teaching duties and see this in positive terms. '*A large degree of willingness to make secondary education more professional is evident from teachers' replies to questionnaire items on non-teaching activities. Most would like to work more closely with their colleagues and local industry and take the needs of individuals and groups of students more into account. There is also broad support for in-service training as well as participating in new development projects.*' (Stoel and Streumer 1996, p. 16). At the same time, however, it also says that '*...most teachers teach traditionally*' (ibid., p. 16).

These differences possibly reflect the different positions and role definitions which teachers have in the respective vocational training systems. For example, the developments in Finland are seen within a marked situation of tension between the traditional strong and central role of teachers and the technocratic top-down reform politics of the eighties and early nineties (Heikkinen 1997b, pp. 216-218). The growing significance of informal and work-based learning means increasing importance and increasing demands for in-house trainers. At the same time they are usually in a weak position, usually work part-time as trainers, and have little or no professionalisation in their training function – although there is more marked professionalisation in their 'own' profession. This even applies to Germany, where this role is most highly professionalised. This relation of tension seems to be very pronounced across the board within this group, and is sometimes seen as the path towards the 'pedagogisation' of labour processes: '.. instead of creating a separate group of VET professionals, pedagogical knowledge

should increasingly be a component of everybody's 'professionalism', especially those working in jobs involving planning, management and development' (Heikkinen 1997a, p. 125; Cedefop 1996).

A summary of the general shortcomings in the VET professionals' training system levels the following criticism (Heidegger 1997, pp. 18-19):

- there is no integration of VET and HRD;
- there is no connection between vocational training and reducing unemployment;
- there is insufficient interaction between the different categories of 'VET professionals';
- the possibilities and contributions for shaping the professional position are not valued;
- pedagogical skills are usually kept separate from occupational subject areas;
- occupational competence (know how) and knowledge (know what, know why) are usually kept separate;
- prospects in planning and management are often fundamentally different to the points of view of vocational training practitioners;
- theory and practical application are kept separate with both sides being incorporated in different positions/persons;
- the development of cooperative learning environments is not taken into account.

Thus the basic structures and problems of division of labour amongst 'VET professionals' are mirrored and reflected in their training. Correspondingly, in studies into the possibilities for professionalisation of the vocational training field 'quite strong suspicions and tensions between some groups' (Heikkinen 1997a, p. 130) came to the fore, which also emerged in the Austrian example.

3.2 Steering and pathways towards professionalisation

The forms of division of labour in the different categories of 'VET professionals' which have been outlined have clear repercussions on the shaping of steering and coordination mechanisms, as well as on the level of professionalisation. Because of the segmentary distribution of roles against the background of tension between bureaucracy and market, decision-making and steering structures are often complex and confused, and there is unequal distribution of possibilities for exerting influence, which are also not transparent. Because of the different professional structures and hierarchised qualifications, the decision-making and steering structures also tend to be confused and broken up into a multitude of sectors.

Even the development of the individual's 'own' professional or subject-related knowledge base is tied in with this structure, which can be codified in a different way and to a different extent, can involve different degrees of practical orientation, and can also have different links with the established knowledge base, such as university disciplines.

This duality of complexity and fragmentation in the decision-making and steering structures can also cause cracks to appear in the coordination system between different levels, e.g. between occupational fields and systems, or between the regional and national level. Overall, the distribution of roles between the 'VET professionals' will reflect the basic structural elements in the vocational training system, so that changes in job distribution also affect the structures. A 'professionalisation' policy is therefore anything but peripheral in terms of training policy as a whole, although this is usually not (explicitly) taken into account[33].

[33] In their discussion of New Labour's educational policy strategy, Young and Guile (1997, p. 210) show, for example, that 'the report makes no explicit reference to VET professionals', although the proposals would be difficult to achieve in the absence of professionalisation in this field; a further example are the recent attempts at reform made by the Austrian Government, which further watered down the professional status of in-house trainers in apprenticeship training (Lassnigg 1999b, p.31).

Past reforms in vocational training have often attributed a passive role to the central categories of educators, as do many contemporary attempts at reform. In the technocratic tradition of the sixties and seventies, an attempt was made to change their work through the development and organisation of new teaching plans, curricula, or other rules governing work organisation [4]; and also the dominant modern-day proposals which are quite strongly influenced by the public choice paradigm aim at indirectly changing the behaviour of educators by strengthening external influences, for example through quasi-market structures.

3.2.1 Consequences of recent reforms on teacher professionalism

The study by Geoff Whitty et al. of ongoing market-oriented reforms (1998, pp. 12-14), which has drawn on a lot of relevant literature, produces the following stylised picture in terms of the consequences of reform for the various 'stakeholders' in the system:

- school heads are becoming a central figure, their role becoming more that of 'corporate director', 'business executive', or 'entrepreneur', in contrast to the discourse about 'new managerialism' with flat hierarchies it is noted that '...the gap between the manager and the managed grows' (p. 12);

- for teachers, there is the 'greatest divide between school management texts and empirically informed research': instead of autonomy and professionalism, work is becoming more intense, collective agreements are being undermined, and organisational power is being challenged;

- for pupils and classwork, it is noted that the reforms have not raised standards, and that traditional aspects of teaching have been strengthened ('increasing fragmentation and unitisation of the curriculum', 'marginalisation of non-assessed fields', 'more rigid compartmentalisation of students', 'a new 'hidden curriculum' of marketisation' (p. 13);

- for the political steering and administration of schools, a 'highly delimited' involvement of external 'stakeholders' was noted, with unequally strong representation of people with 'professional business-related expertise' when compared with 'lay members without that expertise', and trends towards 'commodification of parents' (p. 13).

It may well be that the results are overdone, but they nevertheless square with de Moura Castro and Cabral de Andrade's assessments as quoted (1997), as well as with the forecasts which can be deduced from the institutionalistic interpretations mentioned. Sinclair et al. (1996) present similar results for the USA and Great Britain; for vocational training policy in Greece, the high priority attached to reducing costs with no regard for quality is flagged (Patiniotis and Stavroulakis 1997).

3.2.2 Proposals for professionalisation in VET

Various different questions and lines emerge from different contemporary proposals for 'professionalisation', which are connected to the structures of division of labour amongst 'VET professionals'.

A first strategy stems from the study of 'VET professionals' in Finland against the background of the traditionally strong position of teachers in vocational training. This strategy picks up on Anja Heikkinen's question: 'A European VET profession – or many?' (Heikkinen 1997b, p. 213) or 'maintaining the differences' or 'amalgamation into one, integrative VET profession'? (Heikkinen 1997a, p. 126) This question picks up on the existing division of labour between the various categories of 'VET professionals', the distribution of status between them, and their different prospects and duties, as well as the conflicts between them, and asks whether there are enough points in common to warrant an all-embracing professionalisation process. An

[4] The most extreme version of this strategy is '...to make the learning process 'teacher proof'...' (Haddad et al. 1990, p.57) through central control of curricula and the communication media.

57

essential aspect therein is the historically central position of teachers as protagonists of vocational training, and the contrasting of the vocational conception with the educational conception of vocational training. These two conceptions are related to the tensions between vocational professionalism and professionalism as an educator: '...an occupation of vocational educator had emerged, mediating between work life and education' (ibid., p. 215). The professionalism of educators is seen as a guarantee of the *educational* conception of vocational training, '...it created a common background for the conception of vocational education – a paradigm of vocational education – among teachers, administrators, players in industry, students and parents.' (ibid., p. 215). Educators are simultaneously seen as a link between the different 'worlds', and they possess considerable powers of definition for vocational training in their respective field. The most recent reforms focus on this point, and criticise the '...so terribly many inward-looking institutions....they do not even want to know what is happening somewhere else...', as one of the administrators put it (ibid., p. 216). On the other hand, the in-house HRD field is felt to be undeveloped, the trainer function to be 'marginal and ignored' (Heikkinen 1997a, p. 123), staff development of little status, low priority, and not very up-to-date from the point of view of method (Heikkinen 1997a, p. 124-126). A personnel developer is quoted in summary form: 'business is always business: the economist always beats the training manager in the enterprise, in hierarchy and decision-making...training is no king in working life yet – it is quite the reverse' (ibid., p. 124). Maintaining the different categories of 'VET professionals' and improving their cooperation on the basis of mutual understanding of their respective roles is suggested as a strategy for professionalisation, since '...the underlying rationale is that the core of VET professionalism is occupational expertise, practical knowledge and a living connection to industry and occupational life' (Heikkinen 1997a, p. 129). 'New planning and coordinating mechanisms should be developed which would not destroy the educational core in vocational education.' (Heikkinen 1997b, p. 218). An important element in professional development is 'professional autonomy for self-definition' (Heikkinen 1997a, p. 132). In the field of company activities there is a call for the widest possible diffusion of pedagogical knowledge, and further training in administration, planning, research, politics and the representation of interests is seen as an important task.

Michael Young and David Guile (1997) have developed a professionalisation strategy for the United Kingdom, predominantly against the background of informally organised vocational training. This strategy is aimed at developing the profile of a 'professional of the future', building on the traditional elements of professionalism, and tacking on additional elements. This produces a profile of the 'VET professional' as a 'connective specialist' (ibid., p. 210). The traditional elements are:

- technical competence;
- underpinning knowledge;
- practical experience;
- ethic of responsibility.

The new, additional elements of professionalism which stem from the new challenges, are:

- research and innovation capacity;
- customer/client awareness;
- flexibility (polycontextual, boundary-crossing skills);
- telematic-based learning.

This profile certainly represents a further development of 'VET professionalism' in the United Kingdom, in which expansion of the NVQ concept which has been criticised for being too narrow, coming to the fore. 'The current pattern in the UK closely mirrors that of the provision of VET itself...(i.e. it is uneven and fragmented); furthermore there are signs that it could become trapped in the competence dogma of NVQs.' (Young and Guile 1997, p. 206)[35]. Organisational roles are however not part and parcel of this profile. On the ques-

[35] In the United Kingdom, attempts at professionalisation link up with the HRD field, because on-the-job learning processes traditionally play a major role in vocational training (cf. also Cedefop 1995a).

tion concerning the mechanisms for implementing this profile, reference is made to the building of an infrastructure for vocational training as a political task, within which tasks are allotted to the providers of educational activity, the companies and social partners, as well as the political institutions (Young and Guile 1997, p. 210-211).

A further strategy was proposed within the framework of the EUROPROF project in the shape of a general framework for the development of a European 'community of practice'. Whilst initially the project was aimed at integrating the numerous different roles within a broad professional profile (Attwell 1997b, p. 6), the study of structures in the different European countries highlighted the high degree of fragmentation of different categories of 'VET professionals', but also a trend towards convergence. Since direct formal integration and cooperation do not appear to be a realistic option, a general framework of 'cornerstones' for the training of 'VET professionals' is being suggested as a step towards professionalisation, which will provide a basis for reform in the individual countries and systems, and also a basis for the development of a European Network of players in research and practice. The following aspects have been put forward as cornerstones for this framework for the development and further development of training for 'VET professionals' (Attwell 1997a, p. 263-264):

- training programmes at university level, including career guidance and mechanisms for continuing professional development in practice;
- training in participation in shaping production processes (anthropocentric production);
- training in social innovation and entrepreneurial skills;
- linking pedagogical training with vocational training, taking work process knowledge into account;
- training in functions of vocational training planning;
- multidisciplinarity, particularly linking VET and HRD;
- possibilities and points of departure for mobility in Europe;
- training in implementation of research activities;
- cooperation with organisations in the world of work, and the social partners;
- efforts towards learner-centred training programmes, and cooperation between different organisations, both national and international;
- efforts towards situated learning and rich, context-oriented learning environments.

3.2.3 Steering, coordination and professional profiles

What conclusions can be drawn when this analysis of 'VET professionals' is compared with the concepts developed beforehand on the coordination system, the division of labour and professionalisation in this field?

a) The development of training organisations in the direction of learning organisations is certainly not feasible with the traditional structure of segmentary division of labour. Neither does this structure appear to be particularly well-suited to the strengthening of links between the informal learning processes in companies and the formal ones in the formal training organisations. If the analysis of the roles and positions for HRD personnel is taken as an example, then there is a great variety of starting points for professionalisation processes in the overall field of 'VET professionals' – it seems highly unlikely that a generally 'correct' path or a 'correct' general profile of VET professionals exists.

b) Turning to ideas for constructing occupational realities through the institutionalisation of vocational training, control of the appropriate knowledge base is a strategic element which must also be taken into account in the development of professional

profiles. For 'VET professionals', the particular problem arises as to linking the pedagogical or HRD knowledge base to the contextual knowledge base in the occupational field within which the activity takes place. The type of linkage of these elements as well as their weighting is very different from one approach and strategy to another.

c) The linkage of professional profiles and structural characteristics of the training systems refers to the fact that whilst being an important element, the professionalisation of vocational training is certainly no ideal path towards change. More comprehensive and reform-targeted steps will be needed if greater change is to be brought about. The 'mapping' of coordination roles as dealt with in section 1.2.1.2. can serve as a starting point for the development of political approaches. These tasks can be combined to form more complex political approaches, as will be discussed in the next section.

4. Policies 'beyond' the state-market dichotomy

As a fourth step, several select approaches to the further development of vocational training policy, which are already practised in some countries or are being suggested by important organisations are discussed in terms of their implications for the steering and coordination of education and employment.

It is assumed that strategies in education policy aimed at finding a satisfactory solution to the problem of coordination between education and employment require a general strategic orientation, whilst their individual elements must also be implemented in a coherent fashion.

4.1 Outline of policies for coordination

David Ashton and Francis Green (1996; cf. also Young and Guile 1997) stress certain political requirements for an innovation strategy. Agreement on a social consensus which must include a clear link with a strategy for rising qualification on the part of companies in particular is an essential element. Further preconditions are a improved standard of basic education and a well-developed system of incentives and regulation for further training in the workplace, and interplay between formal and informal learning processes in the training organisations which actually works. They see serious constriction of political debate as a typical obstacle 'on a conventional left-right political axis with fixed parameters. These parameters limit the debate to a clash between two opposing sets of assumptions.' (Ashton and Green 1996, p. 179) A shift towards 'high value added production' would necessitate the following measures or strategies:

- 'ensuring that the educational system is producing high levels of achievement in the field of basic intermediary level skills, such as language, maths, science and technology, on which work based learning can build';
- 'integrating practical on-the-job learning with the learning of theory';
- 'fully involving employers in the delivery of the skills necessary for high value-added production but not leaving them in a position to monopolise the definition of the nation's skill needs';
- 'systems should be in place to encourage and reward employees' commitment to life time learning';
- 'And, to repeat, such initiatives cannot merely come from government, without the political support from other sections of the community' (Ashton and Green 1996, p. 185).

It can be shown on the level of concretisation of the more specific policy aspects that there are already a lot of concrete approaches working beyond the state-market dichotomy. These can be applied in the sense of policy learning, with backing provided by the building up of a suitable international comparative knowledge base. One step towards this is to start by drawing up an inventory of such approaches. Eleven strategies or strategy components are

briefly outlined and related to the role of the 'VET professionals' in the steering and coordination of education and employment:

Comprehensive reform strategies: education policy in Finland and Spain

The system is being fundamentally shaken up by numerous changes to the different points of departure. The financing and steering structures, the organisation of training pathways and levels, curricula and final examinations, links with practice, etc. are all affected, which is giving rise to a new shape of education and training system, and is also reorganising and linking the players and different categories of VET professionals along different lines – much of this however is coming about implicitly and in an unplanned manner, with actions emanating from players 'outside' the education sector.

Complex coordination systems, which encompass education and employment: regulating apprenticeship training, 'old' and 'new' forms

The apprenticeship system has been rediscovered. Many countries are trying to breath new life into it, but often its complexity is underestimated. There are indications that the institutionalisation of the concept of vocational training is an essential element in its feasibility, linked with cooperative coordination mechanisms in the triangle composed of the social partners (coordination through associations) and the state (legal regulations and hierarchy). The players in apprenticeship training are professionalised to a very minor degree as 'VET professionals', if at all, and exchange between the 'old' and the 'new' systems could represent an important element of professionalisation in terms of policy learning.

'Implantations' – new holistic steering systems in the traditional environment: the Austrian vocational higher education institutes

A steering system which deviates from the organisation of the education sector in a newly organised training sector can provide valuable impetus for the system as a whole, with a new division of labour between the players being developed within this system, and new functions emerging, which are 'blanketed' by the bureaucratic mechanisms in the traditional system. This also creates space for new profiles of 'VET professionals', which can act beyond the new system itself.

Sectoral organisations for steering and vocational training: examples from the Netherlands and Finland

In some countries, the steering of vocational training which in many systems is operated by fragmented combinations of state bureaucracy and market mechanisms existing in parallel is in the hands of sectoral organisations which bring together the social partners, professional organisations, and also state representatives. This can result in improved linkage between matters of content and steering concerns, as well as interactive and discursive involvement in the development of sector-specific knowledge bases. In principle, this form of organisation makes room for the development and cooperation of different categories of 'VET professionals' although actually achieving this will largely depend on what form this cooperation takes.

Modularisation of studies: educational reform in Spain and Denmark

Breaking broader training pathways or occupational qualification profiles down into short, manageable modules increases the options for combining and leads to a new distribution of steering functions. The weight of the players of the demand side of the education and training 'market' is increased in the steering mechanisms, which improves the accessibility of training possibilities but on the other hand can also make the implementation of broader training aims and overall steering more complicated. Guidance and counselling functions in particular are boosted by such reforms.

'Competence based qualifications': the NSVQ in England

The concept of 'competence based qualifications' links the creation of a system of qualifications which provides signals to the labour

61

market with more output-orientation in the education sector. Through shaping qualifications, which to a certain extent compete with the vocational structuring of the signalling system, a new system of expertise is created. Certain groups of 'VET professionals' – 'new' players but also certain forms of cooperation between 'old' players – must take over qualification shaping, implementation and maintenance. More space is created for more 'constructivistic' solutions as compared with the 'naturalistic' vocational signalling system.

'Transition policy' – policies for school-to-work transition: education and labour market policy

With the over-proportionate increase in youth unemployment in many countries since the eighties, direct political interventions have been developed at the point of transition between basic training and the labour market, which have often prompted the parallel existence of systems of labour market policy and labour market training alongside the formal education system. Such systems have also been developed, organised and implemented by new categories of players. Only recently have efforts been made to link these originally rather complementary and compensatory labour market policy measures with training policy. This often led to new efforts at cooperation between different categories of players (e.g. education administration and labour administration).

Feedback from anticipation of change and innovation in the employment system: preventive ESF-initiatives and projects

Over recent years, more and more mechanisms have been developed as a necessary addition to the traditional research-oriented approaches to the recording and projection of changes in qualification requirements, which should provide for systematic feedback in the form of interactive consultation systems between the different players in the employment system, education system, as well as administration and organisation. These mechanisms may be linked to the sectoral organisations, although they may also be constructed on other levels. This means that the predominantly quantitatively oriented research models become embedded in the communities of practice, and at the same time systems for generating and exchanging new, more qualitative knowledge are created. The different categories of 'VET professionals' are given the opportunity of becoming involved in the production of knowledge.

Efforts to develop the knowledge base in the education sphere: examples of support in the Netherlands

Alternative steering and coordination models necessitate the development and the accessibility of a common knowledge base. Because of its multidisciplinary structure and its applied character, vocational training is pretty much uncoupled from the traditional knowledge-producing structures in the universities, and knowledge is often of a predominantly informal nature and is incorporated in the different categories of 'VET professionals'. Constructing a knowledge base necessitates a move towards the formalisation of knowledge, which could possibly be encouraged by application-oriented support structures as is happening or has already happened in the Netherlands for example, in the shape of specialised institutes for different functions (research, curriculum-development, testing and test development, applied development programmes). Through this type of establishment, which can also take the shape of a network and be less specialised, certain groups of 'VET professionals' are created, which can play an important role in weaving connections with the universities and other institutes of higher education.

Alternative financing strategies: training funds and education vouchers

Steering and coordination mechanisms are considerably influenced by the financing strategies, which in turn can allocate very different responsibilities and influence to the various players and 'VET professionals'. The traditional form of state budgeting, which clearly lays down exactly how the money is to be spent tends to run on an incremental basis from one year to the next, is clearly con-

nected to the bureaucratic steering mechanisms and the traditional segmentary forms of division of labour amongst 'VET professionals' – the market mechanism on the other hand encourages the dominance of business strategies. The most important alternative mechanisms are forms of cost sharing (e.g. sectoral training funds), which require cooperative interaction and decisions, and other types of vouchers, which constitute quasi-markets and often require specific types of regulation.

Strategies for the development of lifelong learning: coherence and 'linkages'

In many countries, the spread of the idea of lifelong learning and its promotion by the European Union as well as other international organisations has prompted the setting up of broad-based expert groups for developing national strategies for lifelong learning. Part of the work of these groups usually consists of assessing national education policy and suggesting reasonably concrete steps towards reform. This prompted national discussion amongst 'VET professionals' amongst others and prompted and encouraged steps towards the laying down of appropriate knowledge bases. The European employment strategy represents an important element of incentive in this context.

4.2 Experience from selected policies

Some of these political approaches will be discussed at greater length, in order to highlight the special implications of professionalisation, the effects on roles and functions, and the division of labour between 'VET professionals'. The examples and approaches should be understood in stylised form, more as a taster to encourage more in-depth probing than as a conclusive assessment.

4.2.1 A comprehensive strategy for overall reform

The Finnish strategy of overall reform consists of a comprehensive set of changes affecting all aspects of the education and coordination system (aims, planning, steering and finance structures, the educational supply structure, curricula, recording of qualifications, linking of training and companies in the form of in-house practical training and apprenticeships, linking vocational training and higher education, linking initial training and adult education).

This strategy, which emanates from and is led by the political and administrative bodies supported by the social partners, introduces a lot of change at many of the system's elements, providing even external players as well as the educational organisations and educators with considerably more space to define and develop their activities. The basic pattern of the reform strategy follows the concept of 'management by objectives', with the objectives being provided by a common set of strategic aims from the political arena.

But educators have the impression that these changes are led from outside the system, and may even clash with their professional identity: by stressing external influences, and particularly the needs of companies, on the aims and knowledge base of vocational training, the conventional and more comprehensive educational aims were undermined, and actual teaching activity upset by the addition of many other tasks and responsibilities. There are also signs of the existence of a certain potential for conflict between the established systems of pedagogical production of knowledge in the universities and teaching-based education on the one hand, and the groups and forces opting for reform on the other.

With regard to the coordination system, many new elements come into being in this strategy of overall reform, whose interplay is conceived within a loose strategic master plan. The implementation strategy, however, is left rather open, and leaves a lot of scope for the development of the individual elements of reform, so that the real interplay between these elements only begins with implementation, and is thus hard to predict.

Unintended effects can well be expected to crop up with this reform strategy, and with so many reform initiatives underway at the same time some are bound to be more suc-

cessful than others. In any case, this approach is a field in which more in-depth analysis of how things are moving and of their effects can also provide other countries many important insights.

4.2.2 Complex coordination systems: apprenticeship

As a system of vocational training and with regard to what, superficially at least, looks like a successful coordination function of education and employment for young people, apprenticeship, particularly in the German so-called 'dual system' has caused such a stir that for a time it was an export hit. The complexity of the apprenticeship system derives from the fact that this system is placed at the interface between the different social systems where the various cultures and institutional models merge, i.e. clash with and complement one another.

Looked at more closely from the point of view of the coordination system, this system is a complex combination of market, contract and regulation, which embraces a multiplicity of 'VET professionals' and is also tied to the system of industrial relations and the occupational system. Apprenticeship training in the traditional sense of the term should be interpreted as an institution within the meaning of institutionalism, so the way in which it works and also its political influencability is connected to many social requirements irrespective of whether it is a case of changing already institutionalised systems or newly establishing this system. Simple organisational or utilitarian-economic interpretations would fall short of the mark.

At the same time, this institution is marked by far-reaching inherent contradictions which complicate its performance: because of the informal nature of the training processes and the unequal power relations or dependencies, the workability of this system largely hinges on the trust of the numerous players involved, which is basically also the measure for the viability of technical-organisational solutions.

The basic peculiarity of the apprenticeship system lies in the fact that in this model not only are the two systems – training and employment – bridged, but training and selection is organised within the company environment, in other words in principle outside the formal education system (at the same time it is a relatively integrated part of the formal education system). Essential steering decisions are taken market-style by the companies (allocation of training places, selection of applicants, training infrastructure, concretisation of the content and quality of training courses, etc.), although they are rooted in a rather narrow system of regulations, which is controlled by a combination of associations and state bodies. Traditionally, an accompanying school component which can be part of the regulations governing the school training system is built into the system, and there is also a occupational structure which constitutes the basic units of the traditional occupational system, and the formal competences related thereto.

One essential element which is often neglected in this field is that social structures in the form of occupational organisations also correspond to the formalised categories of the occupational system, whose role in the overall regulation system is easily overlooked as decisions on regulation are usually taken at the higher, central level. Because of this structure, there is a combination of standardisation and fragmentation which exists at all levels. Standardisation produces the 'training occupations' which represent a combination of qualification and skill profiles, and which act as intelligible signals to the labour market. But because these categories are separated from exercising the occupation in the work process, however, the difference between 'exercising occupations' and 'training occupations' provides a source of flexibility and guaranteed expectations which is often not taken into consideration[36].

[36] In discussions on the inflexibility of apprenticeship training, the 'training occupations' dimension is often mixed up with the 'employment occupations', whereby these are identified with the Fordist US system of regulated occupations, which refer, however, to the dimension of the employment occupations (cf. Lassnigg and Pechar 1990).

The system of 'training occupations' corresponds essentially to the new 'competence-based' systems, a fact which is however concealed by the 'naturalistic' interpretation of the occupations. This aspect is of major importance to the mechanisms for constructing the occupational profiles, because this does not happen according to 'constructivist' consideration of what is practicable and reasonable, but also following factual consideration of what is, is happening, or will be.

The many aspects and players involved in these construction processes make any further development of the structure both difficult and long-winded. The vocational structure of apprenticeship training governs both the company structure on the employer side (through linking with access to the independent exercise of an occupation) and the occupational structure of the employee side, and also embraces the different segments of companies (small, medium, large; technical, commercial, industrial, etc.). The use of manpower, the qualifications structures and also the innovation dynamics vary tremendously between these different sectors, and any further development will depend on the political negotiating processes in the appropriate social structures, which can be characterised by very different constellations within the fragmented framework.

What is common to these systems however with regard to further development is the fact that in-house training reflects the existing company strategy, and does not provide any additional input for the innovation dynamics in the companies. A second common characteristic is their high informal load, with codification processes tending to be not particularly institutionalised (through loose framework conditions, model or sample documents, codified company practices, training of trainers, the school part of training).

In the conception of the dynamics of forms of knowledge the qualification focus of traditional apprenticeship training lies fairly and squarely on the categories of know-how and the handing on of tacit knowledge. This is an important strength compared with the formalised school system, which cannot purvey these components unless at great cost – but it is possibly a weakness when compared with the demands of innovation dynamics, which also stress the other forms of knowledge (cf. Section 2.2.). A fundamental question for the development of the apprenticeship system is the development and shaping of the link with the new HRD mechanisms.

4.2.3 Implantations – a comprehensive steering body in a bureaucratic system

The Austrian system of occupational higher education institutes can be used as an example of 'implantations'. This system is an example of how a new element can be incorporated into an education system whose basic characteristics work along completely different lines to its environment.

The Austrian education system is highly regulated, politicised and nationalised, both in terms of its content and of its organisation, there is a marked segmentary division of labour with decisions being taken by the political and administrative bodies, and sometimes even by the central, corporate organisations. Despite several attempts at deregulation since the nineties, nothing has fundamentally changed.

The law on vocational higher education of a few years back brought a new organisational structure into this environment which is built up according to the accreditation principle and will follow professional criteria by express intent[7]. The legal basis merely laid down the basic aims and criteria, an accreditation board made things somewhat more specific, and the actual development work as well as programme implementation takes place within

[7] Despite sharing the same name as the German Fachhochschule, it was more the model of the former British polytechnics which was applied, obviously with some important differences, with a clearer distinction being made from the universities, for example. The problem of the relationship between the Fachhochschule and universities, in particular the tendency for the two to become increasingly similar, which is discussed as the concept of academic drift, played a major role in the development phase.

65

the educational organisations themselves. Within the general premises of the basic structure of study courses and the status of qualifications there is comparatively speaking plenty of leeway for the conception of qualification profiles, the shaping of curricula from the point of view of content, and the methodological principles. A survey investigating the need for and acceptance of the targeted qualifications is a prerequisite for the approval of study courses, and a regular assessment of courses is planned for, so that they do not automatically simply run and run. Financing is dealt with by the public authorities according to a set of target criteria and reference figures related to study places, whilst the accreditation body is responsible for qualitative assessment. In principle, a study course can also be privately financed, but the charging of study fees is not permitted.

As regards the way in which the steering and coordination mechanisms work, and also in terms of the professional demands on the players involved, the occupational higher education system differs widely from its environment with both functions and professional requirements being much more highly concentrated both from an organisational (on the one hand in the accreditation body, and on the other in the study course teams and sponsor organisations) and from a staff point of view. During the implementation of this system it became clear that the required profile of VET professionals would first have to be developed, in the first stage through learning-by-doing, and only later were systematic steps taken towards staff development.

This steering system moves beyond the segmentary division of labour between VET professionals which is outlined in Section 3.1.3.1. since it requires more complex profiles. Indirectly, this revealed the need for such qualifications on the one hand, whilst on the other it also provided a lot of incentive for the other areas of education (e.g. with certain functions in the steering system such as evaluation or needs analysis being made more explicit). A special aspect which is as yet unsolved in this system is the question of developing application-oriented research. With regard to the use of policy borrowing and the possibility of the 'implantation' of alien elements, this innovation in educational policy could prove highly stimulating.

4.2.4 Policies for school-to-work transition: education and labour market policy

The question of the transition from education to employment became the focus of political attention with the rise in youth unemployment in the eighties. Interestingly enough, however, for quite some time the question was only dealt with very generally and indirectly, and it was a long time before direct political strategies were systematically discussed and developed for this sector. Interaction is desirable in this area of policy, linking different types of players in the different systems and at different levels. For a long time the weakness lay in the fact that the processes of transition were only understood in terms of individual market transactions, with the more compound organisational connections and guiding forces being neglected.

Incorrect choice of training, inadequate qualifications, high minimum wages, and structural changes on the youth employment market in conjunction with low rates of growth and shrinking employment were the focus of discussions in the eighties. Establishing priorities for labour-market policy for young people was the most important response, but often with little or no success. An ongoing OECD project looked into the question of transition policy.

Alongside the traditional themes of minimum wages and labour market policy for young people, aspects of education policy which can help to smooth the transition (structure of educational incentives, content of curricula, contacts with the world of work, information and counselling) were thereby also brought into the public eye.

From the point of view of 'VET professionals', these analyses brought the aspect of cooperation on the more complex levels of labour-market policy in particular to the fore, where major flaws are to be found. European employment policy also underscores this aspect.

4.2.5 Feedback from anticipation of change and innovation

The field for developing mechanisms for anticipating innovation and change in the employment system and in questions of skill requirements possibly demonstrates most clearly the changes which are occurring in the shaping of coordination systems.

The original approach, beginning in the seventies when the importance of economic structural change to training policy was becoming increasingly clear and computer models for system analysis were developed, was the prognosis model of education and manpower planning. It was recognised back then that education policy cannot be guided by stationary skill requirements, but must take account of the changes to be expected in the economic and vocational structure, particularly given the importance of human resources for economic growth. The response was clearly rooted in bureaucratic logic and the segmentary organisation of the education system: science and research should develop and supply the tools, teaching administrations should set up planning departments, which would be responsible for implementing the results of prognosis models through corresponding educational policy steps. This conception also squared beautifully with the then predominant paradigm of technocratic politics.

In practice, however, this approach failed for many reasons, and the change in political paradigms which came with the neo-liberal U-turn brought with it the predominant trend towards the efficacy of market-economy mechanisms, which were also expected to bring about coordination and steering in the training field. Self-steering also became an important buzz word for sociological and socio-scientific considerations. In education policy discussions in the late seventies, the interface between the predominant bureaucratically organised training system and the market-economy based mechanisms in employment and the labour market were complicated by the terms of coupling, uncoupling and flexibilisation. The first forms of distinction between types of qualification or more general educational aims were a basis for this, and they continue to play an important role, even today: the distinction between general and specific qualifications in the human capital theory, or the distinction between general, foundation, and specific qualifications in the education policy analysis in the OECD framework.

The basic idea underlying these distinctions was that the elements in the education processes with long-term effect should be separated from those with a short-term effect, in order to establish them in different organisational arrangements: the qualifications with long-term effect should be acquired in the more inflexible bureaucratic education systems (planning without adaptation), whereas those with short-term effect which therefore need to be renewed very quickly should be acquired on the job itself or in the further training system (adaptation without planning).

These stringent and tempting considerations failed because of the complex nature of qualifications and skills, since although the basic underlying distinctions could be made on a conceptual basis, in practice it was impossible to define qualifications or to square this approach with the nature of the learning process because of the decontextualisation of the long-term qualifications component. The analyses of the implications for qualifications of the new production concepts in particular made it clear that ideas about 'specific qualifications' were highly influenced by the image of company-specific qualifications within a Fordist and technologically determined model of internal company labour markets, which was however increasingly undermined by later research.

So new solutions had to be found in order to square the anticipation of change in the necessary skills in the employment system with the logic of development of suitable qualification profiles in the training system. These solutions now appear to produce a two-track approach which builds on the multiple possibilities for interaction between the various players and types of players in the coordination system:

- on the one hand the aim of employability can be interpreted as a multi-dimensional qualification concept, which brings together both general and specific components, and should in particular also form the basis for further learning processes. The realisation of this concept is based on the interaction between different players with highly varied possibilities of primary and informal experiences in the practical context of the employment system being targeted alongside the more formalised learning procedures;

- on the other hand, the dichotomy of formalised prognosis models as a basis for planning and market economy-based assignment processes is bridged through the development of interactive anticipation systems which, rather than shunning model calculations, tend to embody them in social processes of evaluation and dissemination between the players who contribute their primary experience.

This approach corresponds to ideas about the new forms of production of knowledge within the innovation system, with a knowledge base being built up in complex social processes through the pooling of multiple experiences and methods for gaining knowledge, and by involving the various players concerned, so that applied and basic knowledge, as well as the production, dissemination and use of knowledge are all related. Although this conception appears very simple and plausible, it is in no way trivial since it makes major demands on implementation.

The players from education, the economy, research, politics, etc. must be brought together and they must be prepared to carry the communications can, to formulate and work out their ideas, to understand other, different ideas, particularly those from science and research, to do the necessary weighing up and carrying out of interest-related matters in a cooperative manner and to draw conclusions in the awareness that this is an ongoing process not only of investigation but also of reality building, which can be somewhat tiresome at least during the early stages (because of the lack of information, interest-related idiosyncrasies and hypostatisation, etc.), and consists at the beginning of more of a revelation of not knowing than in the production of knowledge itself. But if this strategy is consistently applied, it can give rise to policy learning and consensus-forming policies which are seen as a central requirement on the path towards a learning society.

5. Conclusions

The most important conclusions from this analysis of steering and vocational training from the point of view of the coordination of education and employment against the background of innovation dynamics towards the learning society concern theoretical-conceptual as well as practical-political viewpoints. The conception of practical-political steering approaches and in particular the role of VET professionals in these approaches depends on the theoretical-conceptual premises established for constructing the coordination system between education and employment.

Two theoretical-conceptual decisions are crucial to the outcome of considerations:

1. firstly, how the relationship between the qualifications/skills level and 'real' practical demands is conceived, and more specifically whether this link is interpreted along 'naturalistic' lines (qualification-skills as the result or a condensed form of research into 'real' requirements, using right or wrong from the central evaluation criteria), or in a 'constructivist' manner (qualifications-skills as 'institutions' on a symbolic level, with the job of structuring the inordinately complex reality of requirements in a logical manner, with evaluation criteria which in turn are applied to the steering and coordination mechanisms in a 'constructivist' way);

2. the second fundamental decision concerns the way in which the possible scope of coordination and steering mechanisms is conceived, in particular whether it is limited to the extended dichotomy of the traditional mechanisms of bureaucracy and market, with all its possible intermediary forms, or whether it has had additional

dimensions of independent coordination and steering mechanisms tacked onto it in the light of recent organisation theory and research, particularly through networks and the neo-corporatist interest organisations or associations.

Fundamental models for the coordination and steering system are then also shaped, their exact form depending on which way these fundamental decisions went. The case of coordination between education and employment is a special one in that, at least as the relationship stands at present, coordination must occur across the boundary between the (predominantly) bureaucratic system (education) and a market-style coordinated system (employment, labour market), with the idea of one being extended into the other being highly unlikely although not to be ruled out completely.

The compromise in the market-bureaucracy dichotomy exists in the concept of public choice strategies, in particular through the inclusion of quasi-markets which bind the players in market decisions to their customers, thereby increasing output-oriented behaviour. Apart from the fact that this conception probably excessively simplifies many aspects of coordination between education and employment[38], it contains absolutely fundamental assumptions about the type of behaviour of the players concerned, and therefore also about VET professionals: the behaviour in bureaucratic organisations, and therefore also in educational organisations is so strongly defined by this model of behaviour based on self-interest inside bureaucracy, particularly the interest in persistence, that emerging learning processes and strategies tend to be nipped in the bud. The push for change must therefore come from the choices and preferences of the customers, which do not only provide the stimulus but also determine the direction of change. 'VET professionals' in schools are therefore conditioned towards adaptational behaviour and market strategies, and the segmentary division of labour between development, planning, control and implementation stands in principle despite the changes in vision and shifts of emphasis.

The concept of professionalisation of HRD staff in the company sector, which draws on the development of the learning organisation, can more or less be seen as the opposite of the public choice strategy. The spectrum of professional tasks, roles and positions of HRD professionals can also be taken as a basis for the professionalisation of VET professionals.

This analysis draws on the constructivist model of relations between qualifications-skills and requirements, and on an extended conceptualisation of steering and coordination mechanisms. A general framework of the coordination system between education and employment is developed, in which the two traditional mechanisms of bureaucracy and market have their place, because amongst the many possible interactions between the different types of players concerned there is also space for the mechanisms of corporative organisations and social networks.

A closer observation of the way in which the education system is built up of the three basic elements – compulsory general education, higher education and vocational education – as well as an institutionalist analysis of the occupational system underscores in many ways the shortcomings of the mind-set shaped by the bureaucracy-market dichotomy: because they emerged from the employment system and because the interconnections continue to exist, vocational training systems can hardly be seen as purely bureaucratic systems; on the contrary there are lines of separation between them and other areas of the education system, as well as with the employment system. There are however many links across these fault lines which the traditional mechanisms cannot adequately cover. These links are seen as fundamentally contingent, and the form which they take determines the configuration of the coordination system.

[38] Who are the 'customers' – young people, their parents, employers? What are the incentives which determine behaviour, and the distortions? What degree of market failure is there in quasi-markets? Problems of coordination of education and labour markets on the time axis – market myopia, etc.

Institutionalisation of the occupational system is an important element in the structuring of these relations, with apprenticeship training representing a special case of the integratory institutionalisation of the relationship between training and occupation.

The concept of the innovation system from the most recent innovation research in the field of the evolutionary economy and the post-Fordist paradigm of the social economy can be seen as a further dimension, which conditions and structures the coordination system between education and employment. This concept specifies the implications of the non-determinist technical-organisational change in employment and qualification against the background of an analysis of company and economic competition strategies in the globalisation process.

This brings new aspects to the fore which are important for coordination and steering: knowledge, production of knowledge, and the dynamics of forms of knowledge, organisational change, learning and the learning organisation. At the same time, it also makes clear that the innovation strategy for the development of the learning society does not arise spontaneously and is no natural trend, but rather just *one possible* strategy amongst others, which presumably brings with it many advantages for highly developed industrialised societies, but which nevertheless depends on the development of suitable framework conditions. If these considerations are consistently applied to vocational training, then certain conclusions emerge which are also of relevance for the coordination system:

1. firstly, for vocational training as a part of the innovation system it is the knowledge-producing side of learning which should be stressed as opposed to the reproductive side (both in terms of the processes involved, and also as far as building the basis of knowledge for the respective areas is concerned);

2. secondly, the development of learning organisations in employment and education would also prompt the development of crossover forms of organisation which make it possible to connect informal and formal learning processes (an example of these is the institution of apprenticeships);

3. thirdly, the coordination of education and employment should be understood not as education being adapted to the needs of employment, nor simply as the allocation and matching of various elements, but also as the shaping and building of vocational and qualification-related structures, which are capable of promoting the innovation process. What emerges from the innovation strategy as far as the development of VET professionals is concerned is that the traditional segmentary division of labour between different functions, particularly organisational and implementing ones, is being transformed into more complex profiles, that the predominant conception of teaching is being transformed into the concept of learning, and that the organisational functions (development, planning, decision-making, evaluation, etc.) are becoming professionalised (and often at the same time de-bureaucratised and de-politicised).

From a practical-political point of view, the general framework of the coordination system for education and employment shows first and foremost that a whole host of starting points and interactions which can help solve the coordination problem in different ways must be taken into account. Coordination and steering are not seen in this model as a holistic block mechanism, but rather as the interplay (partly intentional, partly not) between a whole series of interactions (strategies, policies), the degree of success of which may vary (i.e. there can be different degrees of mismatching, contradiction and clashes between these interactions).

Many concepts, measures and strategies from the present-day spectrum of educational policy approaches and proposals in the European and OECD field which could help solve the problem of coordination are being sketched out and discussed, and a selection of these approaches are dealt with in more detail.

The general conclusions are as follows: the shaping of coordination mechanisms should build on the analysis of available structures, identify the most important flaws and bottlenecks and strive to remove them; the available structures should be interpreted as a complex system of relations between different types of players, many of whom can be defined as 'VET professionals'; to a certain extent the workings of the coordination system therefore also reflect the way in which labour is divided between these categories of 'VET professionals'; the development of coordination and steering strategies should build on the skills and cooperation of 'VET professionals', taking particular account of the role of teachers and trainers as core professionals; the identification and further development of new forms of division of labour between these professional forces and the construction of adequate structures for professional development are in this sense important elements of innovative coordination policy.

Breaking down the coordination system and steering strategies into numerous different elements and analysing their systematic interplay also facilitates processes of policy learning and policy borrowing in the European and international field. The effects of specific strategies can be observed in different environments, and the exchange of experience and the further development of the common knowledge base is encouraged in forms of cooperative research and through the creation of international networks in practice and research.

71

Bibliography

Abbott A., 1988. *The system of professions: an essay on the division of expert labour*. Chicago: University of Chicago Press

Alisch L.-M. et al., eds., 1990. *Professionswissen und Professionalisierung*. Zeitschrift für Empirische Pädagogik. Sonderband. Braunschweig

Altrichter H., Posch P., 1990. *Lehrer erforschen ihren Unterricht*. Bad Heilbronn: Klinkhardt

Official Journal of the European Communities, 6.7.1996, C 195/2

Archer, M.S., 1979. *Social origins of educational systems*. London & Beverly Hills: Sage

Argyris C., Schön D.A., 1978. *Organisational learning: a theory in action perspective*. Reading MA.: Addison-Wesley

Arnold R., Dybowski-Johannson G., 1995. 'Das lernende Unternehmen' – Implikationen für berufliche Bildungs- und betriebliche Personalentwicklungsprozesse. *In*: Diepold P. ed., pp. 323-328

Arnold R., Lipsmeier A., eds., 1995. *Handbuch der Berufsbildung*. Opladen: Leske+Budrich

Ashton D., Green F., 1996. *Education, Training and the Global Economy*. Cheltenham: Elgar

Attwell G., 1997a. New roles for vocational education and training teachers and trainers in Europe: a new framework for their education. *Journal of European Industrial Training* **21** (6-7), pp. 257-265

Attwell G., 1997b. Towards a community of practice for vocational education and training professionals. *In*: Brown A., ed., pp. 3-11

Bader R., 1995. Lehrer an beruflichen Schulen. *In*: Arnold R., Lipsmeier A., eds., pp. 319-333

Bader R., Hensge K., 1996. Aus- und Weiterbildung von Lehrern und Ausbildern. *In*: Diepold P. ed., pp. 181-187

Beck, U. et al., 1980. *Soziologie der Arbeit und der Berufe: Grundlagen, Problemfelder, Forschungsergebnisse*. Reinbek: Rowohlt

Blaug M., 1971. Eine ökonomische Interpretation der privaten Nachfrage nach formaler Bildung. *In*: Hüfner K., Naumann J., eds. *Bildungsplanung: Ansätze, Modelle, Probleme. Ausgewählte Beiträge*. Stuttgart: Klett, p. 212-234

Booth A. L., Snower D. J., 1996. *Acquiring skills. Market failures, their symptoms and policy responses*. Cambridge: Cambridge University Press

Böttcher W. et al., eds., 1992. *Innovationen in der Bildungsgeschichte europäischer Länder*. Frankfurt/Main: Lang

Brandsma J., Nijhof W. J., 1999. Bridging the skills gap: The search for powerful skills, tools and techniques. *In*: Nijhof W. J., Brandsma J., eds., pp. 1-15

Brenner H., 1997. Entwicklung anerkannter Ausbildungsberufe – Fortschreibung überkommener Regelungen oder Definition zukunftsbezogener Ausbildungsgänge. *In*: Euler D., Sloane P. F. E., eds., pp. 53-69

Bronfenbrenner U., 1979. *The Ecology of Human Development*. Cambridge, Mass.: Harvard University Press

Brown A., ed., 1997. *Promoting vocational education and training: European perspectives*. Hämeenlinna: Tamperen yliopisto/Leonardo Da Vinci-EUROPROF

Cedefop, 1995a. *Teachers and trainers in vocational training. Vol I*. Luxembourg: EUR-OP

Cedefop, 1995b. *Teachers and trainers in vocational training. Vol II*. Luxembourg EUR-OP

Cedefop, 1996. *The role of the company in generating skills: the learning effects on work organisation. Reports on The Netherlands, the United Kingdom*. Luxembourg: EUR-OP

Cedefop, 1997. *Teachers and trainers in vocational education and training. Vol III*. Luxembourg: EUR-OP

Cellorio X. M., 1997. The Spanish VET system at the turn of the century: modernization and reform. *Journal of European Industrial Training* 21 (6-7), pp. 220-228

Clark B. R., 1983. *The higher education system*. Berkeley: University of California Press

Clark, B. R., 1986. Implementation in the United States: A Comparison with European higher education reforms. *In*: Cerych L., Sabatier P., *eds. Great expectations and mixed performance. The implementation of higher education reforms in Europe*. Stoke-on-Trent: Trentham Books, pp. 259-267

de Bligniere A., 1997. *The professionalisation of VET in France*. Paper presented to 10 Year Anniversary Symposium ITB (Institut für Technik und Bildung) Bremen, 19-20 February

de Caluwel L. et al., 1988. *Schooldevelopment. Models and Change*. Leuven: Acco

de Moura Castro C., Cabral de Andrade A., 1997. Angebots- und Nachfrageungleichgewichte in der beruflichen Bildung: Einige Verbesserungsvorschläge. *In*: Schaak K., Tippelt R., eds., pp. 81-108

de Moura Castro, C., 1995. *Training policies for the end of the century*. Paris: IIEP

de Rijk R. N. et al., 1994. *The HRD profession in the 90s: table report of a survey on the HRD profession in four European countries*. De Lier: Academisch Boeken Centrum

de Rijk R.N., Nijhof W. J., 1997. *Roles, competencies and outputs of HRD practicioners*. Research paper for EUROPROF. Aberdeen/ Twente (mimeo.)

Dehnbostel P. et al., eds., 1998. *Berufliche Bildung im lernenden Unternehmen. Zum Zusammenhang von betrieblicher Reorganisation, neuen Lernkonzepten und Persönlichkeitsentwicklung*. Berlin: Edition Sigma

Dehnbostel P., Uhe E., 1999. Das Erfahrungslernen mit dem intentionalen Lernen verbinden. *Berufsbildung* **53** (57, Juni), pp. 3-7

Deutscher Bildungsrat, 1969. *Zur Verbesserung der Lehrlingsausbildung* ('Lehrlingsempfehlung'), Bonn

Deutscher Bildungsrat, 1972. *Empfehlungen der Bildungskommission. Strukturplan für das Bildungswesen. 2nd ed.* Stuttgart: Klett

Diepold P., ed., 1996. *Berufliche Aus- und Weiterbildung*. Beiträge zur Arbeitsmarkt- und Berufsforschung (BeitrAB) 195. Nürnberg: IAB

DiMaggio P. J., Powell W. W., 1991. The iron cage revisited: institutional isomorphism and collective rationality in organisational fields. *In*: Powell W. W., DiMaggio P. J. eds., pp. 63-82

Dybowski, G. et al., 1999. *Betriebliche Innovations- und Lernstrategien – Implikationen für berufliche Bildungs- und betriebliche Personalentwicklungsprozesse*. Bielefeld: Bertelsmann (in press)

Elliott J., 1993. *Reconstructing teacher education*. London: Falmer

Ellstrom P.-E., 1999. The role of labour market programmes in skill formation: the case of Sweden. *In*: Nijhof W. J., Brandsma J., eds. pp. 55-68

Eraut, M., 1994. *Developing professional Knowledge and Competence*. London: Falmer

Etzioni A., ed., 1969. *The semi-professions and their organization: teachers, nurses, social workers*. New York: Free Press.

Euler D., Sloane P. F. E., eds., 1997. *Duales System im Umbruch. Eine Bestandsaufnahme der Modernisierungsdebatte*. Pfaffenweiler: Centaurus

European Commission, 1996. *White paper on education and training. Teaching and learning – Towards the learning society*. Luxembourg: EUR-OP

Finger M., Burgin S., 1999. The concept of the 'learning organization' applied to the transformation of the public sector: conceptual contributions for theory development. *In*: Easterby-Smith M., ed. *Learning around organizations: developments in theory and practice*. London: Sage (forthc.)

Gibbons, M. et al., 1994. *The new production of knowledge. The dynamics of science and research in contemporary societies*. London: Sage

Haddad W. D. et al., 1990. *Education and Development*. World Bank Discussion Papers No. 95. Washington DC

Hargreaves A., 1997. From reform to renewal: a new deal for a new age. *In*: Hargreaves A., Evans R., eds., pp. 105-125

Hargreaves A., Evans R., eds., 1997. *Beyond educational reform. Bringing teachers back in*. Buckingham: Open University Press

Heidegger G., 1997. Key considerations in the education of vocational education and training professionals. *In:* Brown A., ed., pp. 13-23

Heikkinen A., 1996. *Vocational education as a 'life project'? Reflections from the case of Finland.* EUROPROF Research paper. University of Tampere

Heikkinen A., 1997a. A comparative view on European VET professionalism – Finnish perspectives. *In:* Brown A., ed., pp. 123-137

Heikkinen A., 1997b. Vocational education as a 'life project'? Reflections from the case of Finland. *Journal of European Industrial Training* **21** (6-7), pp. 213-219

Hentig H.v., 1994. *Die Schule neu denken. 3rd ed.* Munich: Hanser

Hinchcliffe J. K., 1987. Forecasting manpower requirements. *In:* Psacharopoulos G., ed. *Economics of Education. Research and Studies.* Oxford: Pergamon, pp. 315-323

ILO, 1998. *World Employment Report 1998/99: Employability in the global economy – how training matters.* Geneva: ILO

Kell A., 1997. Finanzierungsdebatte – Theoretische Grundlagen und politische Positionen. *In:* Euler D., Sloane P. F. E., eds., pp. 91-104

Kluver J., 1983. *Universität und Wissenschaftssystem. Die Entstehung einer Institution durch gesellschaftliche Differenzierung.* Frankfurt New York: Campus

Koch R., Reuling J., 1998. Institutional framework conditions and regulation of initial vocational training using Germany, France and Great Britain as examples. *In:* Cedefop, ed. *Vocational education and training – the European research field. Background report 1998 Vol. I.* Luxembourg: EUR-OP, pp. 1-32

Lassnigg L., 1997. Einige Aspekte der Entwicklung der Oberstufe: 'Voneinander Lernen?' *In:* Persy E., Tesar E., eds., *Die Zukunft der Schulen der Vierzehn- bis Neunzehnjährigen.* Frankfurt Main: Lang, pp. 139-194

Lassnigg, L., 1998. Qualifizierungspolitik, Innovationssystem und Beschäftigung – Herkömmliche und neue Perspektiven. *In:* Zukunfts- und Kulturwerkstätte, ed., *Reengineering der österreichischen Industriepolitik.* Vienna: ZuK, pp. 76-132

Lassnigg L., 1999a. *'Old' and 'New' professionals in Austrian Vocational Education.* Sociological Series No. 40. Institute for Advanced Studies, Vienna

Lassnigg L., 1999b. *Youth labour market policy in Austria 1980-1997.* Sociological Series No. 38. Institute for Advanced Studies, Vienna

Lassnigg L., Pechar H., 1990. Bildung und Strukturwandel – Institutionelle Aspekte im internationalen Vergleich *In:* Schmee J. et al., eds. *Strukturwandel und Bildung.* Vienna: Orac, pp. 398-467

Lassnigg L., Schneeberger A., 1997. *Transition from initial education to working life.* Country Background Report Austria to the OECD. Vienna: Research report for the Ministry for Education and Cultural Affairs

Lassnigg L., Steiner P., 1997. *Die betrieblichen Kosten der Lehrlingsausbildung.* Materialien zur Wirtschaft und Gesellschaft Nr. 67. Vienna: AK

Lassnigg L., Stoger E., 1999. *Professionals for vocational education and training in Austria.* Report for the EUROPROF Project. Institute for Advanced Studies, Vienna

Lauglo J., 1997. Berufsbildung und das Vertrauen der Banker in den Privatsektor. *In:* Schaak K., Tippelt R., eds., pp. 109-121

Leggatt T., 1970. Teaching as a profession. *In:* Jackson J. A., ed. *professions and professionalization.* Cambridge: Cambridge University Press, pp. 155-177

Levacic R., 1995. *Local Management of Schools: Analysis and Practice.* Buckingham: Open University Press

Lundvall B. A., ed., 1992. *National Systems of Innovation – Towards a Theory of Innovation and Interactive Learning.* London: Pinter

Lundvall B.-A., Borras S., 1999. *The globalising learning economy: implications for innovation policy. Report based on contributions from seven projects under the TSER programme,* ed. by the European Commission. Luxembourg: EUR-OP

Marginson S., 1993. *Education and Public Policy in Australia.* Cambridge: Cambridge University Press

Marsden, D., 1986. *The end of economic man? Custom and competition in labour markets.* Brighton: Wheatsheaf.

Mc Laughlin M. W., 1997. Rebuilding teacher professionalism in the United States. *In*: Hargreaves A., Evans R., eds., pp. 77-93

McLagan P. A., 1996. Great ideas revised: creating the future of HRD. *Training and Development* (January), pp. 60-65

McLagan P. A., Suhadolnik D., 1989. *Models for HRD practice: the research report*. Alexandria VA: ASTD

Meyer J. W. 1977 The effects of education as an institution. *AJS* 83, pp. 53-77

Meyer J. W. et al., 1983. Institutional and Technical Sources of Organizational Structure: Explaining the Structure of Educational Organizations. *In*: Meyer J. W., Scott W. R., eds. *Organizational Environments: Ritual and Rationality*. Newbury Park: Sage, pp. 45-67

Middleton J. et al., 1993. *Skills for Productivity*. Oxford: Oxford University Press

Musgrave R. A., 1959. *The Theory of Public Finance*. New York: McGraw-Hill

Neave, G., 1988. On the cultivation of quality, efficiency and enterprise: an overview of recent trends in higher education in Western Europe, 1968-1988. *European Journal of Education* **23** (1/2), pp. 7-23

Nelson R. R., ed., 1993. *National Innovation Systems: A Comparative Analysis*. New York: Oxford University Press

Neubert R., 1996. Arbeitssituation, berufliches Selbstverstandnis und Qualifikation ausbildender Fachkrafte. *In*: Diepold P. ed., pp. 201-206

Nielsen S. P., 1996. *The dynamics of change in Denmark: The role of the social partners*. EUROPROF Research paper. Copenhagen: DEL

Nieuwenhuis L., Mulder R., 1999. Increasing complexity in vocational education. *In*: Nijhof W. J., Brandsma J., eds, pp. 169-182

Nijhof W. J., Brandsma J., eds., 1999. *Bridging the skills gap between work and education*. Dordrecht: Kluwer

Nonaka I., Takeuchi H., 1995. *The knowledge creating company. How Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press

Odenthal, L., Nijhof W. J., 1996. *HRD Roles in Germany. Studies in Human Resource Development*. DeLier: Academisch Boeken Centrum / University of Twente

OECD, 1974a. *Participatory Planning in Education*. Paris: OECD

OECD, 1974b. *Research and Development in Education: A Survey*. Paris: OECD

OECD, 1976. *Teacher Policies: General Report of the Conference*. Paris: OECD

OECD, 1979. *Teacher Policies in a New Context*. Paris: OECD

OECD, 1981. *The Welfare State in Crisis*. Paris: OECD

OECD, 1989. *Pathways for learning. Education and training from 16 to 19*. Paris: OECD

OECD, 1995. *Educational research and development. Trends, issues, challenges*. Paris: OECD

OECD, 1996. *Lifelong learning for all*. Paris: OECD

OECD, 1998a. *Redefining Tertiary Education*. Paris: OECD

OECD, 1998b. *Thematic Review of the Transition from Initial Education to Working Life*. DEELSA/ED(98)11. Paris: OECD

OECD, 1998c *Pathways and Participation in Vocational and Technical Education and Training*. Paris: OECD

OECD/CERI, 1971. *The Management of Innovation in Education*. Paris: OECD/CERI

OECD/CERI, 1973. *Case-Studies of Educational Innovation. Vol. I At the Central Level, Vol. II At the Regional Level, Vol. III At the School Level, Vol. IV Strategies for Innovation in Education*. Paris: OECD/CERI

OECD/CERI, 1975. *Handbook of Curriculum Development*. Paris: OECD/CERI

OECD/CERI, 1978. *Creativity of the School: Conclusions of a Programme of Enquiry*. Paris: OECD/CERI

OECD/CERI, 1979. *School-Based Curriculum Development*. Paris: OECD/CERI

Ofner F., Wimmer P., 1998. *Alternative approaches to financing lifelong learning. Country report Austria*. Research report commissioned by the Federal Ministry for Education and Cultural Affairs. Vienna

Papadopoulos G. S., 1994. *Education 1960-1990. The OECD Perspective*. Paris: OECD

Papadopoulos G. S., 1994. Linkages: a new vision for vocational and technical education. *In*: OECD, ed. *Vocational education and training for youth*. Paris: OECD, pp. 169-179

Parsons T., Platt G. M., 1973. *The American University*. Cambridge MA.: Harvard University Press

Patiniotis N., Stavroulakis D., 1997. The development of vocational education policy in Greece: a critical approach. *Journal of European Industrial Training* **21** (6-7), pp. 192-202

Polanyi M., 1958. *Personal Knowledge: Towards a post-critical philosophy*. Chicago: UCP

Powell W. W., 1991. Neither Market nor Hierarchy: Network forms of Organization. *In*: Thompson G. et al., eds., pp. 265-275

Powell W. W., DiMaggio P. J. eds., 1991. *The new institutionalism in organisational analysis*. Chicago: University of Chicago Press

Pusey M., 1991. *Economic Rationalism in Canberra*. Cambridge: Cambridge University Press

Raffe D., 1999. A sociological framework for analysing labour-market influences on education. *In*: Nijhof W. J., Brandsma J., eds., pp. 37-53

Rauner F., 1995. Gestaltung von Arbeit und Technik. *In*: Arnold R., Lipsmeier A., eds., pp. 50-64

Rützel J., 1996. Professionalisierung von Berufspadagoginnen und Berufspadagogen für eine gewandelte Praxis. *In*: Diepold P. ed., pp. 219-222

Santema M., 1997. Regional development and the tasks of vocational education and training professionals. *Journal of European Industrial Training* **21** (6-7), pp. 229-237

Schaak K., Tippelt R., eds., 1997. *Strategien der internationalen Berufsbildung. Ausgewählte Aspekte*. Beitrage zur Bildungsplanung und Bildungsokonomie 6. Frankfurt/Main: Lang

Scheerens J., 1997. Conceptual models and theory-embedded principles on effective Schooling. *School Effectiveness and School Improvement* **8** (3), pp. 269-310

Schmid G., 1996. New public management of further training. *In*: Schmid G. et al., eds. *International Handbook of Labour Market Policy and Evaluation*. Cheltenham: Elgar, pp. 747-790

Schneider R., 1982. Die Bildungsentwicklung in den westeuropaischen Staaten 1870-1975. *Zeitschrift für Soziologie* **11** (3) Juli, pp. 207-226

Scott W. R., Meyer J. W., 1991. The organization of societal sectors: propositions and early evidence. *In*: Powell W. W., DiMaggio P. J. eds., pp. 108-140

Sengenberger W., 1987. *Struktur und Funktionsweise von Arbeitsmarkten. Die Bundesrepublik Deutschland im internationalen Vergleich*. Frankfurt/New York: Campus

Shackleton J. R. et al., 1995. *Training for Employment in Western Europe and the United States*. Aldershot: Elgar

Sinclair J. et al., 1996. Classroom struggle? Market oriented education reforms and their impact on the teacher labour process. *Work, Employment and Society* **10** (5), pp. 641-661.

Stichweh R., 1991. *Der frühmoderne Staat und die europaische Universität. Zur Interaktion von Politik und Erziehungssystem im Prozeß ihrer Ausdifferenzierung (16.-18. Jahrhundert)*. Frankfurt/Main: Suhrkamp

Stinchcombe A. L., 1990. University administration of research space and teaching loads. *In*: Stinchcombe A. L., ed. *Information and organizations*. Berkeley: University of California Press, pp. 312-340

Stoel W. G. R., Streumer J. N., 1996. *The changing role of teachers in secondary vocational education*. EUROPROF Research paper. University of Twente

Straumann M., 1996. Berufsbildung und Berufspraxis als Grundlage für die Aus- und Weiterbildung der Lehrkräfte an gewerblich-industriellen Berufsschulen in der Schweiz. *In*: Diepold P. ed., pp. 223-233

Streeck W., Schmitter P. C., 1991. Community, market, state – and associations? The prospective contribution of interest governance to social order. *In*: Thompson G. et al., eds., pp. 227-241

76

Thompson G., 1991. Comparison between models. Introduction. *In*: Thompson G. et al., eds., pp. 243-245

Thompson, G. et al., eds., 1991. *Markets, hierarchies and networks. the coordination of social life*. London: Sage & Open University Press

Thonhauser J., 1995. Die universitare Lehrerbildung unter dem Anspruch der Professionalität. *In*: Buchberger F., ed. *Lehrerbildung auf den Prüfstand*. BMUK-Bildungsforschung 7. Innsbruck-Wien: Studienverlag, pp. 115-135

Tippelt R., 1997. Initiativen der UNESCO: Ausgewahlte aktuelle Konzepte zur Bildungsplanung und zur Kooperation von beruflicher und allgemeiner Bildung. *In*: Schaak K., Tippelt R., eds., pp. 123-147

Tolbert P. A., Barley S. R., eds., 1991. *Organisations and professions. Research in the sociology of organizations*. A research annual. Vol. 8. Greenwich CT: Jai

Torres D. L., 1991. What, if anything, is professionalism? Institutions and the problem of change. *In*: Tolbert P. A., Barley S. R., eds., pp. 43-68

Valkeavaara T., 1996. HRD roles in Finland – preliminary results. *In*: Holton E. F. III, ed. *Academy of Human Resource Development. Conference Proceedings*. Minneapolis

Valkeavaara T. 1998. Human resource development roles and competencies in five European countries. *International Journal of Training and Development* **2** (3), pp. 171-189

Wagner P., 1990. *Sozialwissenschaften und Staat. Frankreich, Italien, Deutschland 1870-1980*. Frankfurt/New York: Campus

Weick K. E., 1976. Educational Organizations as Loosely Coupled Systems. *Administrative Science Quarterly* 21 (March), pp. 1-19

Whitty G. et al., 1998. *Devolution and Choice in Education. The School, the State and the Market*. Buckingham: Open University Press

Widmaier H. P., 1981. Gesellschaftliche Bedürfnisse im Ausbildungsbereich und staatliche Bildungspolitik. *In*: Clement W., ed. *Konzept und Kritik des Humankapitalansatzes*. Schriften des Vereins für Socialpolitik. Neue Folge Band 113. Berlin: Duncker & Humblot, pp. 67-85

Young M., Guile D., 1997. New possibilities for the professionalization of UK VET professionals. *Journal of European Industrial Training* **21** (6-7), pp. 203-212

Zucker L. G., 1991. Markets for bureaucratic authority and control: information quality in professions and services. In: Tolbert P. A., Barley S. R., eds., pp. 157-190

Financing vocational education and training

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Abstract

This paper provides an overview and analysis of current arrangements for the financing of vocational education and training (VET) in the Member States of the European Union. It is based on the evidence provided in a selection of the national 'financing portraits' commissioned by Cedefop in 1998, supplemented by readings of other recent research reports on the topic. At the time of writing, the comparator countries are Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. The structure of this paper follows the common format agreed for the financing portraits. Authors were asked to provide quantitative data on expenditure for different types of training and a qualitative description of the flow of funding through VET structures, identifying the sources of funding and the mechanisms for allocating funds between levels and to provider institutions. Although a single set of definitions could not be applied uniformly across countries, authors were asked broadly to distinguish between initial vocational training (IVT), continuing vocational training (CVT) and training for the unemployed (UVT). The current paper seeks to synthesise the evidence from the country reports in relation to these areas, mapping the current patterns across countries, and noting how they are changing over time. Where possible, typologies of different funding systems have been developed to highlight common and distinctive characteristics of different national subsystems, and to provide a framework for analysis. The analysis focuses on how the different funding systems function and the effects they have on efficiency, quality and the distribution of opportunities. The country financing portraits have not always provided a commentary on the effects of the different funding systems, but this paper draws on such evidence as there is from the portraits and other research reports to discuss these effects.

Table of contents

1. Introduction 73
1.1 Methodological issues 73
1.2 Policy issues 75

2. Initial Vocational Training (IVT) 76
2.1 Defining IVT 76
2.2 Methodological issues 77
2.3 Policy trends and issues 78
2.4 Types of provision and institutional and funding structures 80
2.5 Sources of funding 82
2.6 Mechanisms for distributing resources 83
2.6.1 Funding of IVT delivered in educational institutions and on government youth training schemes 83
2.6.2 Funding of apprenticeships 88
2.7 Future trends 89

3. Continuing vocational training 90
3.1 Defining CVT 90
3.2 Methodological issues 90
3.3 Policy trends and issues 91
3.4 Types of provision and institutional structures 92
3.4.1 Public education and training 92
3.4.2 Private education and training 92
3.4.3 Enterprise-based education and training 92
3.5 Sources of funding 93
3.5.1 State-led regulation 93
3.5.2 Social-partnership regulation 94
3.5.3 Demand-led market regulation 96
3.6 Mechanisms for distributing resources to providers, enterprises and employees 97
3.6.1 CVT providers 98
3.6.2 Enterprises 98
3.6.3 Individuals 99
3.7 The role of funding tiers 99
3.8 Future trends 99

4. Financing training for the unemployed 100
4.1 Background and definitions 100
4.2 Trends in types of training programmes 101
4.3 General trends in the level of funding for UVT 102
4.3.1 Total expenditure on UVT 102
4.3.2 Unemployment and total level of funding for UVT 103
4.3.3 Share of UVT in total VET expenditure 105
4.3.4 Target groups 105
4.3.5 Sources of funding 106
4.4 Funding structures 106
4.4.1 Trends towards decentralisation and its implications 107
4.4.2 Greater government intervention under a strong partnership 107
4.4.3 A greater move towards privatisation 108
4.5 Distribution and funding mechanisms 108
4.5.1 Flows of funds (changes in the relations between central governments and local administrative bodies) 108
4.5.2 Distribution mechanisms for training providers 109

5. Conclusion 110

Bibliography 112

1. Introduction

This paper offers an overview and analysis of current arrangements for the financing of vocational education and training (VET) in the Member States of the European Union. It is based on the evidence provided in a selection of the national 'financing portraits' commissioned by Cedefop in 1998, supplemented by readings of other recent research reports on the topic. At the time of writing, the comparator countries are Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. A full synthesis report based on the full set of financing portraits will be undertaken when all of these have been completed.

The structure of the paper follows the common format agreed for the financing portrait. Authors were asked to provide quantitative data on expenditure for different types of training and a qualitative description of the flow of funding through VET structures, identifying the sources of funding and the mechanisms for allocating funds between levels and to provider institutions. Although a single set of definitions could not be applied uniformly across countries, authors were asked broadly to distinguish between initial vocational training (IVT), continuing vocational training (CVT) and training for the unemployed (UVT). Particular attention was to be paid to the relative shares of funding for each area of VET originating from public and private sources, and the changes over time in these shares; trends in overall levels of funding for each area of VET; and new mechanisms for the distribution of funds.

The current paper seeks to synthesise the evidence from the country reports on IVT, CVT and UVT, mapping the current patterns across countries, and noting how they are changing over time. Where possible, typologies of different funding systems have been developed to highlight common and distinctive characteristics of different national subsystems, and to provide a framework for analysis. The analysis focuses on how the different funding systems function and the effects they have on efficiency, quality and the distribution of opportunities. The country financing portraits have not always provided a commentary on the effects of the different funding systems, but this paper draws on such evidence as there is from the portraits and other research reports to discuss these effects.

1.1 Methodological issues

The analysis of funding systems across countries presents a number of methodological problems. This applies primarily to the use of quantitative, and rather less to the use of qualitative data, but does somewhat constrain any analysis which seeks to go beyond the description of isolated systems. There are limits to how far we can classify subsystems according to a single set of standard definitions; limits to the analysis of over-time changes, and, above all, limits to how far we can make meaningful comparisons between countries. The main sources of difficulty lie in four areas. First, the usage of terms and categories common in VET discourse varies substantially between countries. Second, there are major gaps in the data on VET in all countries. Third, such national data as are available are collected in different ways and on the basis of variant definitions. Lastly, there is a paucity of evaluation evidence in most countries in relation to the implementation of new VET policies.

The classification problem starts with how VET itself is defined in different countries and continues through to the definitions of the boundaries between IVT, CVT and UVT. Occupational training can be distinguished from education in that, unlike the latter, it confines itself to preparation for particular work roles and tasks. Vocational education, however, cannot readily be distinguished from general education since any form of general education may contribute to general vocational preparation. Most countries include an element of general education in vocational educational programmes and in some countries, like the UK and Sweden, vocational education is delivered in institutions which also deliver general education. In all countries, therefore, there is a blurring of boundaries between the two, and in some countries, this is further exacerbated by lack of dedicated voca-

tional institutions. The country reports have dealt with this problem as best they can, but clearly it has been difficult in some cases to decide on what to include and what not to include, particularly when it comes to identifying the VET element of single funding streams to non-dedicated institutions.

Each country draws different boundary lines between IVT, CVT and UVT. The lower and upper age limits for IVT vary across countries. Some countries include short-cycle vocational higher education as part of IVT, some as part of CVT and some do not include it in VET at all. Some countries include special programmes for unemployed youth as part of IVT, some treat it as UVT. Retraining for workers in danger of redundancy through restructuring is defined as CVT in some countries and as UVT in others. These definitional variations obviously affect the way quantitative data are collected and classified.

There are major gaps in the data on VET funding in all countries. The main problem lies in the paucity of data on private investments, whether by individuals or enterprises. No country seems to have accurate data on how much individuals or households spend on fees, travel and materials for IVT let alone for CVT where private investment is more prominent and diversified. If opportunity costs are included as part of private costs, then the data are even more inadequate. Enterprise spending on IVT and CVT is just as poorly recorded. There is no agreed way for companies to account for their spending on training (Drake and Germe, 1994), and there is an understandable tendency for departments responsible for it to under-record the costs. What data are available are mainly based on national surveys, like the labour force surveys, and these tend to use different definitions[1]. The country reports which provide data on enterprise spending use various definitions. Some only report the amounts employers contribute to levies for training (France); some make estimates which include costs to employers of equipment, materials and training supervision (the majority); some include, in addition, estimated costs of lost production from supervisors and trainees.

Public spending is less difficult to estimate since it is all, one assumes, somewhere in the public accounts but it is not entirely straightforward even here. There are problems over whether to include the costs of tax rebates, grants, loan interest and capital investment; over which spending is specific to VET; and even over the sum totals of central government expenditure when many ministries and agencies are involved, as is often the case with CVT. The country reports again each deal with this in different ways. The difficulties increase when one remembers that not all the money budgeted for VET in a given financial year is actually spent in that year; that some of it is 'clawed back' in the next year when it is not spent as approved; and that in some cases much of the central government expenditure lies hidden within non-earmarked transfers made to lower tiers.

Given the lack of clarity in these areas, it is clearly not possible to determine with complete accuracy for any country, either the total national expenditure on VET, or the distribution of that between IVT, CVT and UVT. Only very rough estimates can be made for each country of the shares of individual, enterprise and government investment in VET. One can report with rather more confidence what the national trends have been in spending from different sources on different parts of VET, so long as the classifications have remained the same over time, but often this is not the case. Comparisons between countries on any of these measures are very treacherous. One can say with some confidence when public expenditure in particular areas of VET has gone up or down by a significant margin in most countries and likewise for enterprise expenditure in some countries, but it would be risky to give even trend directions in relation to individual expenditure. In terms of the relative shares of public, individual and enterprise investments in any area of VET, one can make an informed guess about the coun-

[1] The EU survey of continuing training in a sample of firms in 12 EU countries, reported in *Continuing training in enterprises: facts and figures*, European Commission (1999), is a brave exception but even this cautions readers about the methodological weaknesses in its sample frame.

81

tries occupying the extreme positions on a given continuum of distribution patterns, but no more than that.

Two further points should be made about the methodological limits of this paper. Firstly, the main source of evidence is the seven country portraits completed at the time of writing i.e. those for Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. This is both a small sample of current EU Member States, and a biased one. Northern European countries are clearly over-represented, and southern European States are absent. Given the typical regional patterning of VET system types, the analysis in the paper cannot be taken as a true representation of the balance of types in the EU as a whole, although the categories employed may be applicable to all EU systems. Some compensation for this skewing is achieved by drawing on other research sources, but the limitation remains. Secondly, there is relatively little evaluation evidence on the effects of funding reforms in many countries. This paper makes use of such evidence as was available to the authors, much of which comes from Germany, France, the Netherlands and the UK.

1.2 Policy issues

VET has been high on policy agendas in most EU countries during the past decade. This is because of its perceived importance to national economic competitiveness and social inclusion, the latter particularly in the context of rising youth unemployment, and because there has been growing public demand for it. Rapid changes in technology and work organisation, combined with the effects of ageing populations and workforces, have given particular prominence to the notion of lifelong learning. Skills rapidly date, and continuous retraining and updating are therefore increasingly important to enterprises wishing to remain competitive and to individuals wishing to retain employment. Demographic change and changing patterns of work and leisure also mean that more and more people are seeking to continue learning at different points in their adult lives, thus making obsolete the traditional front-loaded structure of formal education systems.

Participation in VET has, as a consequence of these social and economic changes, grown considerably in almost all countries. This is a trend that has been encouraged and welcomed by most governments; however, it also entails rising costs. These have put great pressure on public finances, when they are already squeezed both from the impact of global economic change and from the ageing of populations which reduces tax revenues at the same time as increasing demands on welfare and unemployment spending. The result of all this has been an increasing concern with how VET can be afforded.

European governments generally want to see the creation of genuine lifelong learning systems, but most are taking the view that they cannot afford to pay all the additional costs (OECD, 1996; OECD, 1999). Governments generally accept that the State will remain the major funder of IVT (except in the case of apprenticeship systems)[2] and UVT, but in most cases are looking for ways to limit the costs of expansion through reductions in unit costs. In the case of CVT, governments are looking for efficiency gains and also, in many cases, greater sharing of the costs among beneficiaries. CVT has a relatively unlimited potential for expansion and commensurate cost escalation for which governments are unlikely to act as guarantor. Furthermore, CVT is not yet regarded as a public right to the extent that IVT has become so regarded. Individuals and enterprises benefit from CVT and many governments think it right that they should bear the majority of the costs, providing that this is not detrimental to quality, equality of access and social inclusion. Policy debates about VET funding have, therefore, increasingly revolved around three issues:

a) how to lever greater private investment;

b) how to increase efficiency and effectiveness of provision and

[2] According to Eurostat data (European Commission, 1997b), enterprises funded 75% of the dual system in Austria, the majority of the dual system in Germany and between 51% and 75% of apprenticeships in Ireland. Enterprises funded 75% of traditional apprenticeships in the UK, and 75% of apprenticeships in the Netherlands.

c) how to ensure an equitable distribution of opportunities.

Funding systems are seen as instrumental in all of these and have therefore been in the forefront of much policy debate.

Private investment in VET may be encouraged by improving the efficiency and quality of supply; by making outcomes more transparent; by increasing the quality of information on costs, benefits and returns to investment; and by a variety of other incentives and more coercive measures (OECD, 1999). Policies to achieve all of these have been tried in various countries. Improving qualifications systems, so that they give better information on the skills of qualification holders, is one way of increasing transparency and encouraging investment both for individuals and enterprises. Schemes like Investors in People (IiP) in the UK, which kitemark firms attaining a benchmark standard in human resource development (HRD), help to disseminate information of the benefits of investment. Financial incentives for individuals and enterprises to invest in training can take the form of tax rebates, individual loans with and without interest, and a variety of subsidies. More coercive measures include a license to practice laws which encourage individuals to train and qualify, laws compelling firms to train young employees or to give paid training leave to adult employees, and mandatory training levies on firms. All of the latter can be enforced through social partner agreements rather than statutes and all may be regarded as incentives to investment. In the case of levies, the increased incentive lies both in the compulsion and, in principle at least, in interventions to deal with the 'externalities' which cause market failure. When measures are taken to prevent some employers free-riding on the training investment made by others, a more equitable sharing of costs can be achieved, and this may reduce employer resistance to investment.

Spreading the costs of VET investment between the State, enterprises and individuals has obvious attractions but it can often run up against strong resistance, particularly when it is seen to undermine access for some groups. Another way to keep the public costs down is to raise the efficiency and effectiveness of publicly-funded VET. Governments have increasingly sought to use funding mechanisms to achieve these ends. Decentralisation of the administration and funding of VET has been used to improve efficiency; it is thought to make those planning and delivering provision more responsive to local demand and more conscious of costs. Decentralisation can involve delegating power and responsibility to the regional and local authorities or offices of central ministries or even to the provider institutions themselves. In each case it may be combined with measures which encourage diversity and competition amongst suppliers and this is also sometimes seen as a driver of efficiency. To create further incentives to efficiency and effectiveness, new funding systems have been developed which allocate funds to institutions more precisely in relation to actual inputs and outputs. These measures may sometimes have unintended or unwanted effects in terms of efficiency, quality and equity. They are certainly likely to increase transaction costs and require more monitoring and evaluation. In many cases, consequently, decentralisation of administrative control has been accompanied by a strengthening of central standard-setting and evaluation capacity. Many governments now prefer to delegate detailed administration to lower levels and concentrate central powers on the development of the frameworks, levers and 'steers': funding mechanisms are increasingly becoming the preferred instrument for 'steerage'.

The remainder of this paper examines the patterns and shifts in funding systems in the three areas of VET: initial vocational training (IVT); continuing vocational training (CVT) and training for the unemployed (UVT).

2. Initial vocational training (IVT)

2.1 Defining IVT

Compared to other areas of vocational training such as CVT, IVT is relatively focused

because of its concern with the vocational development of the younger learner. There are, nevertheless, important differences in the ways that IVT is defined across different European countries according to their individual education and training traditions.

First, there are differences in normal age boundaries of those offered IVT. In the Netherlands, IVT is offered to students from 12 to 21, whereas in Austria the range is 14 to 18 and in the UK and Sweden 16 to 19. Differences in age boundaries relates both to institutional boundaries (for instance in the UK, the definition of IVT in the financing portrait has been closely related to further education colleges and TEC programmes) and to the respective traditions of whether there are opportunities for early vocational specialisation.

Second, IVT can be defined more broadly or more narrowly according to its relationship with general education. The OECD study, *Education and training beyond basic schooling* (1986) distinguished between countries where IVT is predominantly work-based and countries where it is predominantly school-based. Across the different European countries in this study, there appear to be three dominant models of IVT:

1. IVT as an integral part of a comprehensive upper secondary system (e.g. Sweden);

2. IVT as school and college-based technical and vocational education and training including periods in the workplace (e.g. France);

3. IVT as work-based training (e.g. apprenticeships) but also with opportunities for theoretical training (e.g. Austria).

School- and college-based IVT can be in the form, of prevocational education and training, broad vocational and technical education or job-specific occupational training (OECD, 1990). Work-based training may be in the form of traditional apprenticeships organised by the social partners (as in Austria and in a residual form in France), or in a form where public bodies take the organisational lead (i.e. Training and Enterprise Council (TEC) for Modern Apprenticeship in the UK, and the EUD schools in Denmark). There is also a host of special programmes for less qualified and marginalised youth which are generally organised by central or regional authorities and which involve forms of alternance training and subsidised job-creation (like the New Deal programme in the UK).

2.2 Methodological issues

The variety of types of IVT and the weak boundaries between IVT and other forms of provision give rise to a number of methodological problems in collecting and analysing data on financing IVT. For example, broad definitions will tend to inflate the estimates of the amount spent on IVT and may shift the balance between different categories of training.

The most serious problem concerns the shading of IVT into the general education system both in terms of age or educational definition (e.g. the Netherlands, UK and Sweden). In these cases, the financial portraits are unable to make clearly defined estimates of the costs of IVT. On the other hand, in those systems which have clearer boundaries based on distinctions between IVT in vocational schools, school-based IVT and apprenticeships (e.g. Austria, Denmark, France and Finland), data classifications appear to be less problematical. However, even in these systems there is a more specific problem of calculating the real cost of apprenticeships because of the relationship between the cost of training and the value of the labour contribution of the apprentice. There is the technical issue as to whether to count the cost of apprentices' wages within IVT or not.

In addition, there are other methodological issues which pertain to particular countries. In the case of Austria, possibly the most centralised of the sample, the financing portrait author was unable to collect data because of its lack of availability, possibly related to the number of central ministries involved in the financing of IVT. In case of the UK, the author was compelled to focus on two of the three strands of IVT, further education and TEC-funded training and to omit IVT in schools

due to the fragmented funding system and the weak boundaries between general and vocational education.

The effect of these differences results in the need to impose a range of constraints on the comparisons – to impose institutional boundaries (e.g. to eliminate some aspects of IVT in compulsory schooling); to create broader and less textured categories of comparisons (e.g. some portraits are able to discriminate between school-based and work-based IVT funding and others are not); and finally, to confine comparisons of funding levels to historical trends within a country rather than direct comparisons of levels across different countries.

2.3 Policy trends and issues

IVT has remained a high priority in European Member States throughout the past decade. It is seen as essential for equipping young people for entry into the labour market, for providing the basis for their future learning and capacity to adapt to changing skills demands, and for generating the skills and capabilities for national economic growth and prosperity. In a period of shrinking youth labour markets it is also seen as increasingly important for avoiding social exclusion and the social and economic costs that this leads to. Policy-makers have consequently been keen to increase levels of participation in IVT so that post-compulsory education and training becomes almost the universal norm and so that overall levels of qualification and skill continue to rise. Particular emphasis has been placed on the lower academic achievers who leave compulsory schooling with few qualifications and who are most in danger of exclusion from employment and further education and training and who may suffer various social disadvantages as a result. A renewed interest in apprentice and alternance-type training in many countries (such as Denmark, France, the Netherlands, Sweden and the UK) reflects a widespread belief that work-based training can reduce youth unemployment (OECD, 1996), motivate the less academic young people to achieve and, at the same time, relate learning most effectively to the changing demands of the workplace. Post-compulsory education and training (PCET) has become the socially-accepted norm for the vast majority of young people in most EU States – so much so that it is now regarded as a de facto extension of compulsory schooling and virtually as a public right. Moreover, in some countries attending part-time vocational schools is compulsory until the age of 18 or so, if youngsters do not attend another type of school.

Across the European countries under consideration, the funding committed to IVT by governments has generally risen due to the perceived economic and social benefits and there is little evidence of resources being transferred away from this area to other high priority areas (such as CVT) (Coopers and Lybrand, 1996). Demographic changes which have involved smaller youth cohort sizes have helped to contain increases in costs despite rapid rising in participation in some countries (like the UK). Also efficiency improvements have reduced units costs of provision per student in a number of countries (Finland, UK and others) and this has also helped to contain rising costs. However, few countries have actually managed to reduce their overall spending in this area during the past decades (Green, Wolf and Leney, 1999).

As a consequence of rising real costs, amongst other factors, governments have sought new ways to improve efficiency and effectiveness in IVT provision, many of which involve changes in modes of regulation and finance. The most significant of these across a range of countries has been the trend towards decentralisation of control and funding. This has been seen by policy-makers to have a number of advantages including: broadening the base of investment in IVT, making provision more responsive to local demand, making local funders and providers more aware of costs, and allowing decisions to be made by those with the most detailed knowledge of the local circumstances (OECD, 1995). However, decentralisation has taken a number of quite different forms in different European countries with varying effects on efficiency, access and quality.

A common pattern has been to devolve authority to the regional and local levels. This

85

can either mean giving more administrative and funding responsibilities to regional and local offices or agencies of the central government ministries (deconcentration) or to the regional and local elected authorities or both. In most cases these lower levels will become responsible at least in part for planning provision, constructing and maintaining buildings and allocating recurrent funds and may also employ and pay teaching staff. In the case of the elected authorities they may also raise their own revenues for IVT from taxes, although the majority of their funding still tends to come from transfers from central government. France has devolved much of the responsibility for IVT to regional offices and authorities, whilst Finland and Sweden have been notable for decentralising control to the level of the municipality.

A second pattern, which may complement the first, is to devolve more power and responsibility horizontally and vertically to the various tiers of social partner organisations. This generally implies giving the social partners bodies greater responsibility for standard-setting for vocational qualifications and for regulating and monitoring work-based IVT provision. In many cases it will also involve statutory instruments or collective sectoral agreements which provide for certain entitlements for training and, in some cases, for levies on enterprises to contribute towards the costs of apprentice training. Austria and Germany have typically and traditionally given major roles to the social partners in VET, and, in recent years, other countries such as France and the Netherlands have also increased their roles.

The third trend has been towards delegating greater responsibility and financial discretion to the institutions themselves. In most European countries this has happened only to a limited degree and cannot proceed very far whilst teachers are still employed and paid by the State. However, in the cases of the Netherlands and the UK, institutional delegation has been taken rather further and has been accompanied by other measures designed to introduce market mechanisms to IVT. A diversification of provider institutions has increased consumer choice and encouraged competition between institutions which is intended to drive up efficiency. Institutions have been delegated authority to hire, fire and pay teachers and receive the majority of funds for IVT, therefore gaining far greater discretion over how funds are spent. While the increase in public sector providers thus constitutes a quasi-market in IVT (Le Grand and Bartlett, 1993), private sector provision may also be encouraged, particularly in the area of occupational training.

Changes in modes of regulation have also been associated with various innovations in funding mechanisms. Decentralisation and increasing institutional autonomy in the public sector has often involved the introduction of more detailed methods of unit costing, and the purchaser – provider division, designed to increase transparency and accountability in spending. Financial delegation to institutions has involved the design of new funding mechanisms which seek to reward efficiency and quality amongst providers. Increasing privatisation of IVT supply has led to some discussion and experimentation in the use of funding vouchers: cash tokens provided to eligible consumers which can be used to purchase IVT at both public and private institutions.

The comparator countries in this study exhibit a variety of trends in relation to the above. Some, like the UK, have experimented with marketisation and are now moving towards more planning, institutional collaboration and a degree of social partnership (DfEE, 1999). Some, like Austria, have yet to confront fully the issues of structural change and continue with the traditional modes of regulation and finance, albeit with minor increases in institutional delegation. The majority appear to be incrementally decentralising administration and funding to regional, local, institutional and social partner levels, but without marked enthusiasm for creating fully market-based systems and with concomitant increases in central government framework-setting and policy-steerage. The overarching trend for IVT, which combines continued government commitment with increasingly constrained budgets, is the search for the elusive multiple goals of efficiency, quality and equity. The keys to these are seen

Figure 1: School-based and work-based systems

to lie with different balances of national steers or frameworks and local decision-making. The different locations and strategies of the various countries is illustrated in Figure 3 (Section 2.7).

2.4 Types of provision and institutional and funding structures

IVT can be classified as being primarily school-based (e.g. Finland, France, Netherlands, Sweden and UK) or primarily work-based (Germany and, to a lesser degree, Austria)[1]. However, it may be more useful to locate the different countries at various points on a school-based – work-based continuum, according to the degree of integration of IVT into upper secondary education, the role of vocational schools, the role and extent of work placements and the size of the apprenticeship system.

IVT provision across the various countries can be seen to fall into four broad types:

a) prevocational or basic vocational preparation within the school system;

b) vocational upper secondary education which can be divided into vocational courses within comprehensive upper secondary schools and colleges (Sweden and UK) and IVT in vocational secondary institutions (Denmark, Finland, France and the Netherlands);

c) work-based apprenticeships (either government-led or social partnership based) with the most extensive apprenticeships taking place in social partnership systems (Austria, Germany and Netherlands); and

d) various special programmes aimed at the disadvantaged, excluded or unemployed (e.g. TRACE in France, New Deal in UK, 17th line in the Swedish upper secondary system).

Despite a renewed interest in apprenticeship in some European countries, the dominant form of IVT continues to be school-based, although with varying degrees of interrelationship with workplaces. Some countries, such as Denmark, have school-led sandwich courses, or alternance systems, in which the provision is divided almost equally between school and a work placement. The result is that in those systems with predominantly school-based provision, IVT is overwhelmingly publicly funded. Where there is a more extensive apprenticeship system or the use of extensive workplacements or social partnership arrangements (e.g. Austria, Denmark, France and the Netherlands), there may be more private funding through employer contributions in the form of levies or training costs.

The institutional and funding structures of IVT vary according to the type of system, political traditions and recent attempts to reform institutional structures. They too appear to fall broadly into three different types defined by their position along the two continua

[1] Denmark must be counted as an intermediate case. According to the European Commission (1997b) 54% of ISCED level 3 students in 1993-94 were in VET programmes of which 83.5% were in *Ehrvervsuddannelser* (EUD) alternance programmes – i.e. 45% of students were on alternance programmes, representing one of the highest levels of this kind of VET participation in Europe, after Austria and Germany (see Green, Wolf and Leney, 1999). However, EUD programmes are not on the traditional dual system model. Students may register on programmes without first having an apprentice contract with an employer and are therefore not strictly speaking apprentices. Training time spent in the workplace varies between 25% and 90%. This programme is essentially a hybrid between school-based and work-based forms, thus placing Denmark on the boundaries of our classification.

87

represented as centralisation/decentralisation and public/private. The location of each country on both the centralised/decentralised and private/public continua may be the result of the effect of a number of different factors. For example, there may be centralised frameworks of standards and decentralised operations. On the other hand, institutions may be formally financially autonomous but their behaviour is fundamentally influenced by central funding steers. In all the models, central government continues to play a fundamental shaping role.

Type 1: Centralised with some devolution and social partnership (France and Austria)

In these countries central government plays a dominant role due mainly to the funding of varying proportions of school teachers' salaries which constitute the greatest proportion of IVT[1]. Nevertheless, there is some decentralisation to regional level, with regional offices and authorities having an enhanced role in raising taxes or levies and in distributing funds. The social partners play important roles in regulating, funding and providing training within the apprenticeship system. This tends to be based on both statutory instruments and social partner agreements made at sectoral level.

Type 2: Decentralised social partnership systems (Denmark, Finland and Sweden)[2]

In these countries there has been a concerted attempt to decentralise administration of IVT by devolving financial decision-making to lower levels. In Finland, considerable autonomy has been given to municipalities which have jurisdiction over both spending and tax-raising priorities. In Sweden funds are channelled through municipalities which provide freedom to institutions to spend according to their priorities. Likewise, in Denmark, IUT institutions have considerable autonomy in spending, although most of these receive their funding directly from the Ministry of Education. The main aim of this 'public' form of decentralisation is to encourage 'economic rationality' and appreciation of costs; to reduce the size of the central education budget and to bring provision closer to the learner to stimulate the supply of provision.

Type 3: Marketised systems (UK and to a lesser extent Netherlands)

Marketised systems can be seen to form a third type. They tend to delegate operational financial and administrative control to the provider institutions, while at the same time centralising control over strategic matters like standards-setting, qualification systems, and overall funding allocations. Government distributes funds through central funding agencies (like the Further Education Funding Council in UK and the Financing Services Unit – CFI – in the Netherlands) to competing institutions using national funding mechanisms or formulae. This model, although giving more detailed day-to-day responsibility to the institutions, can be increasingly centralist because of the steering power that the funding mechanism gives to the central authorities and because of the need to monitor providers closely, by both audit and inspection, to ensure quality and to avoid fraud. However, market mechanisms can be introduced in a more limited way, by giving institutions the powers to sell services to clients and to recruit students without restrictions, but without full financial delegation. The 'public decentralised' systems in Denmark, Finland and Sweden have introduced a limited role for the market at institutional

[1] It should be noted that Government payment of salaries does not apply in the case of work-based instructors whose costs are considerable in countries like Austria where the apprenticeship is a prevalent form of IVT.

[2] Germany, although not one of the comparator countries here, could be included in this category – in the dual system training standards are centralised (with social partners), the provision of apprenticeship places are marketised (firms) and the provision of part-time vocational schools (compulsory for all not in other education programmes until the age of 18) is decentralised at regional level.

level to provide additional sources of revenue and to bring the supply of IVT closer to demand".

2.5 Sources of funding

Sources of funding for IVT typically include: central government taxes; regional and municipal taxes; levies collected from employers; EU grants; and tuition fees paid by individuals. In some countries additional income is also generated by institutions providing full-cost services of various sorts to local clients.

Central government raises the majority of funds spent on IVT (except in-plant apprenticeship training) in all EU countries and the proportion is likely to be highest in countries which have a majority of school-based provision. Revenues sourced at the central state level may flow directly to provider institutions or individuals through funding allocations to institutions, subsidies to employers providing training, or loans and grants to those in IVT. Alternatively, they may be allocated indirectly through tax rebates to training firms and individuals in training. Revenues sources at the central State level may also be transferred to lower regional and municipal levels of the State, either to regional and local offices or agencies of the ministries concerned, or to regional and local elected authorities. In the case of transfers to lower levels of elected authority, these transfers generally take the form of needs-related grants with adjustments which attempt to equalise service provision between areas with different tax bases. In recent years a number of countries, including Finland, France and Sweden, have transferred increasing proportions of central funding to regional and local levels to decentralise the funding allocation process and make it more responsive to regional and local needs (Coopers and Lybrand, 1996).

Although central government revenues contribute the major part of funds for IVT, there has been a trend towards diversifying the sources of revenue, and non-government sources can be quite significant in some countries. Tuition fees and other individual contributions are still of minor overall importance in most countries and there appears to be little prospect of individual fees playing a greater role in funding IVT. The additional incomes generated by provider institutions for full-cost services (as in Finland, France, the Netherlands and the UK) similarly represent only a small fraction of overall IVT funding, although they may be significant to the institutions themselves. However, contributions from the EU, from local taxes and from employers can be quite significant. The role of EU funding varies across different countries with funds playing a larger role in countries with extensive programmes for unemployed youth (as in Finland and the UK). Enterprise funding also varies significantly, with larger contribution in those countries with extensive work-based provision organised on a social partnership basis.

Enterprises contribute to work-based training costs through wages paid to trainees and trainers, through the costs of lost production from those involved in training, and through direct spending on equipment and materials. In a number of countries employer costs in training are collectivised so as to achieve a more equitable sharing of costs and greater incentives for investment. Arrangements may be based on statutory requirements or on collective sectoral agreements between the social partners. Typically they involve some form of levy on employers which is 'pooled' and used to fund employers who train. In France there is a *taxe d'apprentissage* which is levied on all enterprises at 0.5% of payroll. The portion of this for apprentice training (0.2%) can be paid direct to provider institutions or to collection agencies (usually the chambers) who pass it to the regions to distribute. Denmark also has an independent employer fund (the AER) which raises mandatory contributions from employers and pays part of the trainee's wages during the period of 'theoretical' training.

The country portraits make estimates for proportion of total IVT originating from different sources. However, due to the difficulties

[1] Germany and Austria are marketised systems as far as funding of in-plant apprenticeship training is concerned; standards are centralised with involvement of social partners.

89

in estimating individual and enterprise contributions, and the different methods of calculation used in each case, it is impossible to make accurate comparisons between countries. The only safe generalisations that can be made are that the majority of funds in all countries originate from central government (although they may be distributed at lower levels) and that enterprise contributions are only significant in the cases of countries with substantial work-based training systems. The portraits for Denmark, France, the UK and Austria (in its upper estimate) all report enterprise spending on IVT as representing in excess of 20% of the total. There is no evidence that the share of enterprise funding is increasing in any of the countries.

2.6 Mechanisms for distributing resources

There is a variety of mechanisms for distributing recurrent funds for IVT in the comparator countries. The funding mechanisms for school-based provision, government youth training schemes and apprenticeships differ substantially from apprenticeship training and can be considered separately.

2.6.1 Funding of IVT delivered in educational institutions and on government youth training schemes

Across the seven comparator countries, it is possible to distinguish four principal models for funding provider institutions for school-based IVT and youth training:

a) input-based models;

b) mixed input-output models;

c) contract models;

d) voucher funding (Figure 2).

The first two of these are the main means for funding IVT which is principally school-based and the other two are used in some countries for funding special youth training programmes. The latter may, however, sometimes be delivered in the same institutions as the former, as in the UK case, and will therefore form an additional funding stream for those institutions.

The input model is the probably the most prevalent way to fund institutions and consists principally of national formulae which relate institutional funding to numbers of students and the real costs of their programmes. In most cases, where teachers are employed by the State, institutional budgets will not contain a salary component since teacher salaries are paid direct by the funding authority. Funding for teacher salaries is made proportional to students numbers by the allocation of teachers to institutions on the basis of given teacher-student ratios. Alternatively, where institutions are given discretion over staffing levels, funding for teacher salaries can form part of the general funding formula, but will be deducted from institutional budgets before these are delegated to institutions. Funds for other recurrent costs, such as equipment, building maintenance and so on form part of the institutional funding formula and are related to real costs through weightings attached to different programme areas. In the past these aspects of funding were often 'earmarked' by funders, so that institutions could only use them for specified and approved purposes.

The tendency in recent years has been for 'lump sum' funding, as in the Danish 'taximeter' system and the Dutch methods for funding schools and ROCs, where institutions have discretionary powers to spend across different budget headings. However, since in most cases institutions do not directly pay their staff, the size of the budget actually delegated to the institution, and over which it exercises discretion, remains relatively small proportionally to the total costs of the provision it makes.

The mixed input/output model of funding has been considered by a number of countries, including the Netherlands which intends to introduce a version of it for the ROCs in the year 2000. However, the only State in the sample which is using it extensively in the non-university sector of post-compulsory education is the UK. Further education colleges are funded according to a complex formula based

Figure 2: Principal models for funding provider institutions for school-based IVT and youth training

Type	Features	Issues
Input-based	National formulae based on the number of students related to the cost of courses – a form of lump-sum funding Teacher salaries (which normally account for about 80% of funding) not at the discretion of the institution Proportion of funding, therefore, actually devolved is relatively small Currently the most prevalent model of funding IVT in EU comparators	The development of more 'sensitive' input based models, in contrast to historical funding, aims to make providers more aware of costs and to exercising economic thinking at local level Tendency may be towards maximising recruitment rather than attention to quality, particularly where there are monopoly providers
Mixed input/ out-put models	The whole budget of the institution is formally devolved Funding of institutions based on a range of input and output factors (e.g. in the case of the UK FE colleges – number of students based; course tariff, different services provided such as guidance, student retention and course outcome This model under consideration in a number of countries but not yet implemented	Mixed models allocate more funding to quality related criteria such as providing initial guidance and the retention and output of the course Experience of the model in the UK suggests that it was initially interpreted as an input model which led to growth of recruitment and only several years did the quality issues emerge
Contract models	Also an input/output model but with a more substantial output-related element than mixed model Involves the negotiation of performance contracts rather than a funding mechanism Used in the UK on youth training programmes though also experienced in the USA in late 1980s/early 1990s	Principally aimed at driving down training costs at the same time of linking these with student performance Experience in the UK and USA suggests that more output related models suffer greater distortions (e.g. creaming students and fraudulent activity by the provider)
Voucher models	Students offered a voucher with which to 'purchase' education and training The concept of student being a purchaser/ consumer meant to show their interest in education and training The real value of the voucher nominal because institutions paid on the basis of the cost of different programmes Piloted in youth training programmes in the early 1990s	Research into training credits pilots in the UK has suggested that the voucher did not 'empower' students in making choices about their education and training or increased demand for training A version of the voucher has been resurrected by the new Labour Government in the form of 'individual learning accounts' for adults rather than for 16-19 year olds

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on 'units of activity.' The most important of these are: enrolling students (on-entry), education/training students (on-course), and qualifying students (on-completion). The second 'on-course' element, which accounts for about 80% of funding, is based on a national tariff for each programme qualification area which weights funding according to the real costs of provision. The output-related elements of the funding, which is less than 10%, is triggered when students attain the target qualifications or outcomes for their programme. As in most instances of the input model of funding, funding to institutions is on a 'lump sum' basis which allows institutions discretion over how their spend their budgets. However in this case, since colleges are delegated powers to hire and fire their staff and pay their salaries directly, institutional budgetary discretion is exercised over the majority of funding for the sector.

The contract model of funding may be based on inputs or outputs or on a combination of both. However, it should be distinguished from the above in that it involves the negotiation of performance contracts between the funding agency and the provider, rather than being based on a national model or formula. Youth training programmes in France and the UK have tended to be funded on this basis, in the latter case with Training and Enterprise Councils (TECs) generally attaching the majority of funds for providers to the achievement of specified outcomes.

Voucher funding has been more discussed than actually employed to date, at least within the EU. However, it has been used to some degree in the UK by TEC for the funding of youth training programmes. With the voucher method the general principle, as in the models above, is that funding follows the student/ trainee but with the difference that in this case the latter is actually given a physical token purchasing power. In the UK case, some TEC have issued 'training credits' or 'youth credits' to each eligible student/ trainee with a face value of GBP1000 or more which could be used to 'buy' appropriate training from a chosen provider institution (including private ones). In fact, the value of the voucher was purely nominal since the actual payments to institutions made by the TEC were calculated on the basis of the costs of different programmes, plus some output-related element.

In each of the above models, there is a variety of means for calculating capital funding. Part of funds for capital costs may be included in the weighting for programme areas in the input and mixed models. Alternatively, capital costs may be funded through separate formulae or on a project basis, as in Finnish upper secondary institutions.

The various funding mechanisms in use in the EU at present each have their own particular strengths and weaknesses, but in every case they are intended as ways of improving institutional efficiency and responsiveness to demand for IVT. Increased take-up of IVT in Member States has, notwithstanding shrinking youth cohorts, often faced governments with increasing pressures on educational budgets, and new funding mechanisms have been designed to reduce unit costs whilst at the same time maintaining or raising quality. All forms of formula-funding, like the above, aim for a more transparent and precise relationship between spending and actual inputs or outputs compared with the previous arrangements where institutions tended to be funded on an 'historic basis' whereby budgets are determined according to spending in previous years and estimates of the costs of activities planned for the future. Formula funding is thought to encourage institutions to be more efficient and cost-conscious. Financial delegation to institutions through 'lump sum' payments, which allows greater institutional discretion over budget spending, is also thought to encourage cost-consciousness and greater efficiency by making institutions more responsive and more responsible. Beyond this the different mechanisms may have different effects.

The 'input' model funds largely on a per student basis, but with weightings to reflect the differential costs of different programmes. In addition to tying funds closely to actual inputs/costs, and therefore encouraging efficiency, this system has the effect of incentivising institutions to enrol more students, assuming that institutions generally follow a

resource-maximising strategy. Where there is a diversity of provider institutions in the market with freedom to recruit, competition may also encourage better quality of provision. Institutions may wish to improve their provision to enhance their reputations and attract more students and funding. The limits to the effectiveness of this system of funding, however, derives from the fact that providers are often in a quasi-monopoly position. In this situation, whilst they may wish to maximise their recruitment, they may have little incentive to provide good quality where their potential customers have little choice over where to enrol. In some countries, governments have sought to encourage institutional competition through diversifying the provider institutions and through requiring more public disclosure of performance-related information. However, at upper secondary school level, there are limits to the degree to which institutions can be diversified, since equipment costs for vocational education often require economies of scale. Given levels of vocational specialisation, monotechnic institutions, like the vocational *lycées* in France, are likely to be near monopoly suppliers. Even polytechnic institutions (like the Dutch ROC's, the Swedish *Gymnasieskola* and most UK colleges) will be in a near monopoly position except in densely populated areas. Institutional competition and incentives to quality may consequently be limited.

Mixed input/output models of funding attempt to overcome this problem by providing more direct incentives to quality. A portion of institutional funding is attached to student achievement of prescribed outcomes and institutions are therefore encouraged not only to enrol more students but also to ensure that they learn. Where the funding mechanism operates in a context of provider diversity, institutions are additionally incentivised through institutional competition, as in the case of per capita funding. How far the mixed model of funding actually achieves the intended result is still open to question as there is as yet insufficient evidence to judge. Much may depend on getting the correct balance between the input and output elements of funding and on having adequate measures of output.

The FEFC model (see definition in Section 2.6.1) in the UK has been credited with achieving an appropriate balance between input and output elements and has certainly been associated with considerable efficiency gains in the sector. During the period since the introduction of the funding system, enrolments have increased markedly whilst unit costs have decreased, although the latter has less to do with the funding formula as such and more to do with national reductions in the level of funding for each unit of activity[7]. Some problems have arisen as a result of colleges adopting overly instrumental means of income maximisation (including in a few cases fraudulent practices) and cost reduction (including a sharp reduction in the average level of class contact or tuition time for students), but it is hard to say whether the latter suggests any negative effects on quality. The output-related element of funding appears to have made institutions more conscious of the need to retain students until they complete their courses, but it is not possible to say whether their actual levels of achievement have been positively affected by the funding mechanism. What can be said with some confidence is that the FEFC model has avoided some of the potentially distortionary effects of output-related funding (ORF) by keeping the output-related element to a relatively marginal level.

The evidence from other experiments in ORF where a substantial portion of funding is attached to outcomes, as for instance with Job Training Partnership Act (JTPA) programmes in the USA, is that ORF can produce quite serious unintended effects on provider behaviour (Felstead, 1998; Green and Mace, 1994; Kath, 1998). Where the majority of funding is attached to outcomes, providers can be encouraged to 'cream' (i.e. recruit only those most likely to attain the outcomes); to focus their efforts overly narrowly on achieving the target outcomes; and even to misrepresent the

[7] The financing portrait shows an estimated reduction in expenditure per full-time equivalent student of 15 percentage points between 1993/4 and 1997/8; however, this calculation does not take into account rising debt amongst colleges.

outcomes altogether. Institutions may be tempted to enrol students in courses below their potential in order to maximise their chances of reaching the targets, or, where they are responsible for assessing and certificating students, to lower their standards to ensure that students achieve certification. There are also considerable additional transaction costs involved in ORF systems, particularly in relation to the monitoring, recording and reporting of achievement.

There have been extensive evaluations of the JTPA programmes which have been running in the USA since 1983, and the evidence on the effects of ORF has been generally negative, although repeated refinements to the performance criteria did achieve better results over time (Green and Mace, 1994). Evaluation evidence for our comparator countries here is largely limited to the experience of TECs in the UK. In the case of TEC funding for Youth Training and Youth Credits schemes, the verdict of evaluations is rather mixed. Coopers and Lybrand (1996) found that ORF provided a positive incentive for efficiency both for the TEC and the provider institutions they fund. However, the survey by Felstead (1994) concluded that the system of measuring outcomes prevented financial incentives to support cost-intensive and high quality training measures and instead only promoted the cheapest, easiest and fastest training courses. Kath (1998) concluded from this that "the conditions ... laid down by the government for the allocation of funds with the aim of obtaining better and more efficient returns on training, practically achieved the opposite' (p. 49). The UK financing portrait notes that current VET funding systems in England and Wales have, overall, served to reduce unit costs in IVT, but cannot say how far this is due to the ORF elements. They remain agnostic about whether the ORF funding of current work-based training programmes (including Modern Apprenticeships, National Traineeships and Youth Training) has improved cost efficiency, but they note that studies undertaken by the DfEE have entertained the possibility that the particularly low unit costs on work-based training schemes may be due to their higher levels of ORF, compared with school and further education IVT. One has to set against this, however, the rather low qualification rates of trainees on some of these programmes (particularly Youth Training).

Generally speaking, it would seem that ORF is most likely to avoid distortions and have beneficial results on efficiency and quality where it is applied in the appropriate degree, where the output criteria are carefully specified to reflect the multiplicity of learning objectives, and where the criteria can be expressed in the form of genuinely measurable indicators. As debates in the Netherlands and the UK suggest, these measures are preferably measures of individual learning gain and institutional 'value-added'. Unfortunately, no country appears yet to have succeeded in the technically difficult task of constructing such measures.

Voucher funding, in as much as it used a combination of input and output measures, is subject to both the strengths and weaknesses of the mixed model of funding. However, it differs in that it also employs a symbolic token of credit which is intended to be 'empower' the consumer, making him or her both more cost-conscious and more discriminating. Research by Hodgkinson and Sparkes (1994) on the UK experiment, however, found no evidence that voucher-holders felt more empowered in making choices about training opportunities. Other research (Coopers and Lybrand, 1996) found no substantive evidence of any material impact on the training market. The UK financing portrait notes that the Training Credits initiative has not had notable success and that the use of similar vouchers for funding further education has been specifically rejected.

Each of the above funding mechanisms attempts to enhance efficiency and quality. They each, in albeit in different degrees, represent a general trend towards the greater use of funding mechanisms as a means of regulating provider institutions. In the past, provider institutions have been regulated primarily by 'bureaucratic means' (Drake and Germe, 1994) including specification of statutory responsibilities, standard-setting, inspection, financial audit and, above all, direct admin-

istrative control by public authorities. New funding mechanisms have not entirely replaced these regulatory instruments, but they have sought to reduce direct administrative control by increasing institutional autonomy and regulation through funding regimes. How far this is feasible, and how much weight can be borne by financial mechanisms, remains open to debate. One apparent irony is that institutional delegation and regulation by funding, while reducing bureaucracy at the level of the direct administration, have, at the same time, increased bureaucracy at the level of monitoring and audit. Institutions are more autonomous and responsible and experience less 'bureaucracy' in day-to-day decision making. In some ways this may lead to greater efficiency. On the other hand, they are more encumbered with recording, reporting and quality control measures, which represents a different burden. Efficiencies accruing from reduced bureaucratic administration may be offset by increased transaction costs for accounting, personnel, payroll, marketing, recording, and reporting functions.

2.6.2 Funding of apprenticeships

Apprentice training can be distinguished from IVT in school and colleges and on State-funded training schemes in that employers substantially co-fund it. Typically, the State pays all or most of the costs of the school-based component and the employer pays most of the costs of the enterprise-based component. Funding for the school-based component will be allocated to institutions by central or regional government or its agencies, generally on the basis of the kinds of formula described as 'input-based' and 'mixed' models above. If the school-based or 'theoretical' element is delivered in the same institutions as are delivering other non-alternating IVT programmes, as in the case of the UK colleges of further education, then the funding will form part of the overall funding for the institution and may be allocated on the same basis. Where there are discrete institutions for delivering the 'theoretical' training, like the CFAs in France, or the *Berufsschulen* in Germany, they may have their own specific types of funding formula. In some cases, as in the case of traditional apprenticeships in the UK, the employers also have to cofund the 'theoretical' training by paying a fee to the colleges concerned. In terms of the level of allocation of State funds for apprentice training, there has been a tendency in recent years for the regions to play a greater role as, for instance, in France.

The costs of the enterprise-based element of apprentice training are largely borne by employers. They bear the costs of supervision, training equipment and materials, damage, and pay the apprentice wages (although in some countries, like Denmark, they may not pay the whole amount of the wage for the period spent in theoretical training). The apprentice wage costs may be entirely recovered through the productivity of apprentices or may represent a net cost to employers depending on the circumstances. In the case of the German dual system, for instance, estimates vary as to how far apprenticeship represents a net cost to the employers, and this is likely to vary according to the size of the firm, with small firms possibly experiencing zero net costs. In any case, the costs of training have generally been acceptable to firms since they are offset by savings accruing through trainee productivity, enhanced flexibility in labour deployment and the reduction of costs for future employee selection, induction and training (Wagner, forthcoming 2000).

Employers may also recover part of the costs of apprentice training through government subsidies, as in the case of Modern Apprenticeships in the UK, or through special tax rebates. In some countries there are also social partner schemes to pool the costs of apprentice training. In Denmark all firms, both private and public, pay a mandatory levy to an independent collective employer fund (AER) which is also co-funded by the State (although State funding for this is being phased out). This fund is used to reimburse employers for the majority of apprentice wage costs while they are doing theoretical training. It also subsidised employers for the costs of apprentice placements abroad, travel expenses during theoretical training, and work placements themselves for certain disadvantaged students. France has an apprenticeship tax of 0.5% of payroll which is levied on all

95

private enterprises in commercial, industrial and craft sectors. Part of this (the 'quota') is used to finance national adjustment between the regions and to subsidise the apprentice training centres (CFAs); the other part (the 'ex-quota') may be used for other related purposes such as grants and subsidies for apprentices and the funding of schemes for apprentice masters. Some of this levy, in other words, may find its way back to the employers.

The various models of funding apprentice training can be differentiated according to how much is contributed (for both school and work-based elements) respectively by the State and the employers. In some cases, such as in Finland, the Netherlands and Sweden, it would appear that the majority of funding comes from the State. In others, such as Austria, France and Denmark, it would appear that the employers are making a more substantial contribution, although precise data are too limited to say this for certain. In France, according to the financing portrait, the State has increased its share of total funding for the apprenticeship from 58% in 1987 to 61.2% in 1996. The enterprise share has decreased slightly from 37% to 35.2%.

2.7 Future trends

Despite the rising political profile of CVT within the lifelong learning perspective, there is no sign of a diminishing commitment to IVT. This is because it is still seen as a means of promoting economic competitiveness and of providing a firm basis for future engagement with learning. It is also increasingly seen as having a social cohesion function and new IVT programmes are being focused on the socially excluded (e.g. in France and the UK).

However, there is little indication of further strong expansion of IVT, particularly in those countries with high levels of participation 16 to 19 year olds. The UK may be the only real exception in our comparator countries because of its relatively poor education participation rates beyond 16. There is more evidence that the main trend in the coming years will be the search for greater efficiency (containing or reducing costs) and effectiveness (improved outcomes and stronger demand for training). This may mean further experimentation in decentralisation.

It is likely that the reforms themselves will stimulate new challenges and debates. These are likely to revolve around:

a) the issue of equality due to the impact of decentralised decision-making, institutional autonomy and more market mechanisms;

b) how to promote quality as well as promoting efficiency;

c) how to promote 'simplification' and system transparency;

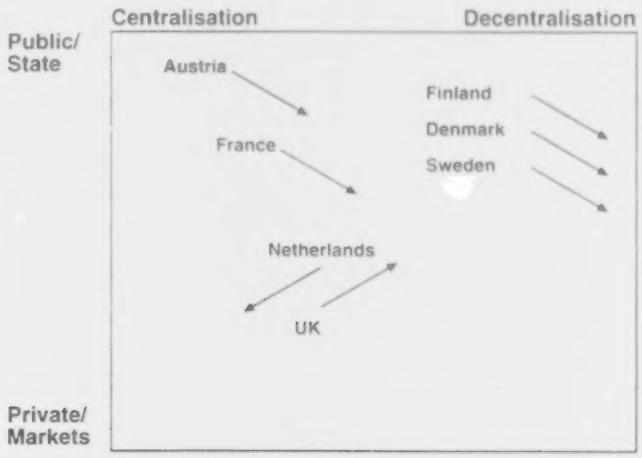
d) how to move more towards output-related mechanisms and at the same time avoiding distortions (e.g. debate about how to measure value-added);

e) creating the optimum mixes of central planning, local decision-making and market mechanisms.

Future trends will also depend upon the current location of different countries in relation to these trends and their previous history and experience. Figure 3 attempts to locate each of the countries in relation to two continua – centralised/decentralised and public/market. This rather speculative diagram suggests four different trajectories based on the current country location on the two axes and the effects of their funding policies. The trajectories model could be further illustrated by the thickness or length of the line indicating the strength of the trajectory:

- from relative centralisation to public decentralisation (Austria and France);
- continued decentralisation with increased room for institutional autonomy (Denmark; Finland, and Sweden);
- some movement towards regionalisation with renewed interest in public planning (UK);
- movement towards greater centralisation and marketisation as a result of priorities being given to ORF funding steers (Netherlands).

Figure 3: Location and direction of policy for the funding of IVT



3. Continuing vocational training

3.1 Defining CVT

Continuing vocational training (CVT) covers a diverse set of training activities and programmes offered by public and private training providers as well as by enterprises themselves. The public/private mix varies substantially in different European countries depending on their individual education and training traditions and cultures and, in particular, on the strength of their social partnership arrangements and attitude towards State regulation in this area. Country reports have defined CVT in a variety of ways, depending on the lower age boundary that is used and the degree to which general adult continuing education is included. For the purposes of this paper, a fairly broad definition of CVT will be used, where it is defined as training for employees (except those participating in IVT programmes). It will include both on- and off-the-job training, as well as longer-term adult vocational training, except that which is undertaken exclusively within a higher education institution. As such it involves education and training at a range of levels which could be broadly divided into four types: deferred initial training, updating, upgrading and retraining (Drake and Germe, 1995).

3.2 Methodological issues

Since there is such a variation in what actually constitutes CVT in and between different countries in the EU, it is unsurprising that there is also a problem in collecting and analysing data about the financing of this type of provision. Some countries, for example, do not make a strong distinction between general and vocational education, so it is quite difficult to divide what is being provided into the kind of discrete categories which the financing portrait framework demanded. Further problems arise through a lack of clarity over whether enterprise-based training includes what is provided in the public as well as the private sector. Decisions have to be made as to whether to include both direct and indirect costs and often the data on which the country authors base their individual country reports either do not make a distinction between these two or omit to include indirect costs in their figures. Opportunity costs, for example, are built into some calculations and not into others. Invariably there is incomplete information on enterprise or household expenditure on CVT, even though these statistics are of particular importance in discussions on the financing of this type of training. Moreover, some of the authors of the country reports have included grants and subsidies to individuals as part of their calculations on public expenditure and some have not. What

97

emerges from this is a rather messy picture and one which allows only very broad comparisons between different countries on expenditure on CVT. This section of the paper therefore focuses on these broad trends in financing CVT in seven EU member countries and attempts to categorise and provide illustrative examples of different types of mechanisms for collecting and allocating resources for CVT across these countries.

3.3 Policy trends and issues

Although contextual factors, such as the effects of globalisation, technological advances, demographic trends and changes in the nature of work and society, have had a profound impact on the way that European countries view the social and economic role of education and training as a whole, it could be argued that there has recently been a particular emphasis on the specific role of lifelong learning (OECD, 1996). Within this umbrella term, the place of continuing vocational training (CVT) has gained in significance, because of its direct relationship with the labour market. Discussion about the way this type of education and training, which has traditionally largely been the preserve of enterprises and private individuals, is currently financed and might be most effectively financed in the future, has thus increasingly become a focus of policy discussion at national and international levels (OECD, 1999).

In all of the countries included in this study, the amount of CVT which is being undertaken has increased and trends suggest that this is likely to continue to be the case. In the majority of these countries the direct costs (i.e. funding of provision of programmes or fees for courses) of CVT are predominantly privately funded and national governments bear a much smaller proportion of both its direct and indirect costs (e.g. benefits, tax measures and compensation for loss of earnings). For this reason, it is often difficult to obtain precise figures for the amounts spent on CVT, particularly the type of indirect costs borne by individuals. Nevertheless, there is some evidence that there have been increases in private spending on CVT during the 1990s as well as substantial real increases in public spending in many countries (Coopers and Lybrand, 1996).

At the same time, however, there is a clear indication in most of the country reports that further expansion is having to take place within the general context of constraints in national budgets overall and in relation to education and training in particular. This is necessitating a consideration of how current government resources might be redistributed, how efficiency savings might be made and how additional private funding might be generated and brought into the system to bolster national government resources. Even Finland, which used State funding during a period of recession in the early 1990s to increase overall VET funding as a way of tackling unemployment, is now firmly committed to attracting more private resources into its system. Much of what follows should therefore be seen within this overarching financing trend.

Other broad policy trends or issues related to the financing of CVT which will form the background to the rest of this chapter include:

- increasing interdepartmental cooperation over CVT at national government/ministry level;
- consolidating provision through legislative frameworks rather than direct central government regulation;
- redefining the role of the social partners in relation to CVT;
- devolving power for allocating resources from central to regional, local (municipal) or even individual institutional levels;
- encouraging public/private partnership arrangements in relation to both capital and recurrent funding;
- introducing the 'purchaser/provider' concept into the provision of CVT and thus a limited element of competition between different public and private providers of CVT;

- careful targeting of government subsidies to CVT providers, enterprises and individuals; and
- introducing new types of funding mechanisms for allocating resources.

3.4 Types of provision and institutional structures

The resources which are allocated for CVT in EU countries are used to fund a mix of training activities or programmes which can be categorised into three main types:

a) those which are provided by public education and training institutions;

b) those which are provided by private education and training providers (this category includes those activities or programmes which are provided by non-profit-making institutions and run by non-governmental organisations);

c) enterprise-based education and training.

In most European countries it is possible to follow any of these three types of CVT programmes or activities either full-time or part-time (including by distance learning) and each of the three types of CVT can be designed to serve four major purposes – deferred initial training, updating, upgrading and retraining. Each of these three types of CVT is funded differently and relies on a different balance of public and private finances to meet both its direct and indirect costs.

3.4.1 Public education and training

In all EU countries public education and training is largely funded by national or regional/local government, although employers and individuals may contribute to both direct and indirect costs. The former, for example, might bear the costs of lost production of employees on paid training leave and, in some cases, might pay the full costs of the training itself. In certain cases, they may use training levy funds to purchase public education and training (e.g. in France and the Netherlands). Individuals may pay fees or travel or childcare costs and, in some cases, may only receive benefits rather than full wages for the time that they are in training. The type of CVT provision offered in this category typically includes second chance upper secondary and post-secondary qualifying education for adults.

3.4.2 Private education and training

The direct and indirect costs of private CVT are usually met by either an enterprise or an individual, although there may be cases where national or regional government funds might be used to purchase CVT from private education and training providers on behalf of an individual or enterprise. Training levy funds can also be used in some countries (e.g. in France and the Netherlands) to purchase CVT offered by a private education and training provider. The type of training offered by private education and training providers tends to be delivered by means of short courses and to focus on updating, but this is not exclusively the case. Included in this category, although possibly constituting a separate subcategory, are those types of CVT which are offered in non-governmental, not-for-profit training providers which exist in countries such as Austria and Sweden. Sweden's employee organisations, trade unions and professional associations, for example, provide many courses to train people for trade union work. Most courses are residential and last one or two weeks, although some are up to six months.

3.4.3 Enterprise-based education and training

In most European Union countries, employers pay the majority of direct and indirect costs of enterprise-based CVT, although there may also be indirect costs to individuals. Occasionally, national or regional government may subsidise enterprise-based CVT as, for example, where employees are in danger of becoming unemployed unless they upgrade their skills. The majority of enterprise-based education is of short duration and focuses on updating, upgrading and retraining (European Commission, 1999).

In the seven countries under consideration in this paper, it appears that the latter type of

Figure 4: Different European countries' approaches to regulating the provision and funding of CVT

State-led regulated----------	----------Social-partnership regulated----------	----------demand-led regulated
Finland	Sweden France Austria Denmark Netherlands	UK

training predominates in the CVT area – at least in terms of the frequency of episodes. However, some caution must be exercised in measuring training intensity in these terms since many of the training episodes, particularly in the company, may be very short (European Commission, 1999).

3.5 Sources of funding

Across European Union countries there are six potential sources of funding for CVT:

- specialist EU programmes (e.g. under Objective 4);
- national government taxes;
- regional/municipal government taxes;
- private enterprise training funds;
- contributions from individuals;
- training levy funds (where there are collective social partnership agreements).

The proportion of CVT which is funded from each of these sources varies from country to country and, as discussed above, depends on the type of collective social partnerships (if any) which exist in each particular country. However, it appears from the rather incomplete data given in the financing portraits, that direct costs of CVT as a whole are currently largely funded by enterprises. This is a trend which governments in all countries included in this paper would like to continue, while also endeavouring to increase the amount individuals themselves contribute to their own CVT (OECD, 1998). As we will see below in Section 3.6, a further common trend is, therefore, for national and regional/municipal governments increasingly to see their role in this area as using financial levers both to target funding towards specific policy objectives and to create incentives for private investment in CVT.

CVT funding systems tend to vary according to the types of regulatory regime applied to the national sector in question. The CVT regulatory regimes of the seven comparator countries could be seen along a continuum from State-led regulation through social partnership regulation towards demand-led market regulation (figure 4). By State-regulated we mean those countries which emphasise the use of national legislation to regulate the provision and funding of CVT. By social-partnership regulated we mean those countries which rely largely on social partner sectoral agreements and arrangements to regulate the provision and funding of CVT. And by demand-led we mean those countries which stress the importance of individual employees and employers regulating the provision and funding of CVT within a voluntary framework and with minimal national regulation. Although these are ideal types and no country fits entirely into any of these three categories, it is possibly helpful to make some distinctions between the three and to suggest some strengths and weaknesses attached to each approach.

3.5.1 State-led regulation

Finland is the only country in this set of seven which could in any sense be considered to be State-led regulated[5], although much of the control in this area is now being devolved to regional and local levels[5]. There has been a

[5] The inclusion of southern European countries in the set would probably increase the examples of this type.

strong drive in Finland since the 1980s to increase the amount of CVT and a considerable proportion of this type of training is publicly funded, although it may be delivered by both public and private providers. State funding has been targeted towards CVT which leads to nationally recognised qualifications. Oversight of student selection is also State-regulated although it is now carried out at regional level. Increasing resources for VET (including CVT) has been used in Finland as a strategy for combating high levels of unemployment during periods of recession when employers began to reduce their commitment to CVT. Even here, however, there is a move towards greater social partnership involvement in CVT. There is also a movement towards greater demand-led regulation with the introduction of a degree of competition at the individual CVT provider level and the use of incentives, such as its study aid system, to increase learner demand for CVT.

State-led regulation of CVT systems might be seen as having three potential major benefits – the facility to plan CVT in relation to national training needs or skills shortages; strong centralised control over the quality of provision; and, perhaps most importantly, strategic oversight of the distribution of provision. These types of system are thus more likely to ensure equality of access to training. The issue of equity is an important one in relation to CVT because there are indications in the individual country reports (see also European Commission, 1999) that access to CVT for individual learners is still very dependent on a number of factors including:

- sector (e.g. in Austria sectors such as agriculture and forestry tend to offer fewer opportunities for training than sectors such as education);
- size of organisation (e.g. in France 1.7% of the wage budget was spent on CVT in enterprises with 10 to 19 employees and 4.9% in enterprises with more than 2 000 employees);
- whether the enterprise is publicly or privately owned (e.g. in Sweden 50% of staff in public sector enterprises took part in some form of CVT, but only 35% in private sector enterprises and 20% of those who were self-employed);
- the region of the country the individual employee happens to live in; and
- the level of qualification, gender and age of the individual learner.

However, there are problems associated with State-regulation approaches to CVT. Such systems tend to be rather inflexible and thus less responsive to individual need or demand. There are also problems of 'deadweight' – that is the funding by government of provision which would otherwise be funded by enterprises or individual learners.

3.5.2 Social-partnership regulation

France provides one example of a social partners regulated system, albeit with substantial central state legitimation. As Figure 4 indicates, Sweden lies slightly to the State-regulated end of this continuum because of the strong role of national legislation in this country and the Netherlands lies more to the demand-led end of the continuum because of its emphasis on the use of incentives, such as tax relief and subsidies for both enterprises and employees, to stimulate demand for CVT. However, the differences between these countries are slight in comparison with their overall common adherence to a social-partnership regulated approach to CVT.

The French system is particularly well-documented and provides a clear example of the characteristics of a State-led system of social partnership regulation. CVT regulation is based on a framework of statutory instruments (dating back to 1971) which lays out the roles, obligations and rights of the various partners in training, and a mesh of voluntary sectoral agreements between the social partners which ties parties to various actions and practices. These impose obligations on employers to contribute to collective training funds and to consult with works councils on training matters and entitlements for employees over training leave. They also involve a multiplicity of sectoral agreements linking recruitment and pay with qualification levels. The framework has been designed

to promote equitable distribution of training costs between firms and to achieve a balance between meeting the skills needs of individuals, enterprises, sectors and regional economies.

Various State initiatives target support in specific areas. A 1984 law for participation in the development of vocational training (EDDF) subsidised groups of small employers successfully submitting plans to enhance training efforts (initially for up to 40% of training costs – now below 30%). A training related tax credit was initiated in 1989 for firms undertaking intensified training programmes over a three-year period. The main lever of investment both from the State and employers, however, is still the training levy. Currently enterprises of 10 or more employees must contribute a levy equivalent to 1.5% of their payroll and smaller enterprises a levy equivalent to 0.15%. The self-employed contribute through a flat-rate payment to special agencies set up by professional practitioners and authorised by government, and the central State also contributes. Of the 1.5% levy for larger enterprises, 0.9% goes towards reimbursing employers for the costs of authorised forms internal or external training (by approved suppliers) specified in their training plans; 0.4% goes towards alternance training for new recruits; and 0.2% towards individual training leave costs. Levies are collected by social partner mutual organisations (OPACIFs). Forty six of these are at sector level and 20 at regional inter-professional level, thus providing a framework for encouraging both sector-specific and general professional skills (Greenhalgh, 1999). Employer investment in training is now, on average, well above the required level and from the limited comparative data we have it would appear that French enterprises organise more training hours than employers in many other European countries[9]. A significant proportion of this training is likely to be general and non-specific to particular firms. By the mid 1980s, 10% of all annual training hours were based on statutory paid leave (Greenhalgh, 1999).

The major benefit of this type of system is that it seeks to address perennial problems of market failure in training which lead both individuals and enterprises to under invest. France tries to overcome externalities in training through public subsidy for training investment and by forming clubs of providers which distribute the costs of training and collectively decide on training priorities (Greenhalgh, 1999). Equitable sharing of costs prevents free-riding by non-training employers and, in theory, encourages greater investment in training by employers. Other benefits are also claimed for this kind of social partner system. First, there are strong and transparent links between recruitment, promotion, pay and training which stimulates demand for training. Second, mutualisation of the levy and the forming of a common pool for CVT theoretically means that training opportunities can be more equally distributed even in times of recession or downturn in certain sectors. This type of mutualisation is as beneficial for employees as for enterprises – in the French system, for example, employees' individual needs are met through personal training leave and from industries other than their own. Third, this type of system also allows for forward planning in relation to CVT. The social partners are able to set their overall objectives for the allocation of funds, as well as enterprises setting out their own training plans. In France, the government keeps a careful watch on how levy money is spent – if spending does not follow predetermined training plans, then the company may be asked to repay a proportion or all of the money claimed. There is thus a strong link between planning and social partnership arrangements.

There are, in practice, some well-documented drawbacks to social partnership systems and training levies in particular. Concerted action through social partners only works through an encompassing framework of statutory regulations and sectoral agreements but these can also lead to labour market rigidity and, it is argued, higher unemployment. Levies have

[9] According to the European Commission (1999) the sample of French enterprises organised 11.1 hours of training per 1000 worked, compared with 8.1 in Denmark, 9.9 in Germany and 8.7 in the UK. As with all surveys of this sort, however, there are doubts about the true comparability of national data.

strong detractors, particularly amongst business leaders. The compulsory levy was abandoned in the UK in most sectors in the early 1970s after repeated lobbying from employers and complaints that it was bureaucratic, prejudicial to small employers and not conducive to high quality training (Sheldrake and Vickerstaffe, 1987). The French system has also not been without its critics. As the French report points out, the fact that companies have to pay back that proportion of their allocation for CVT which has not been correctly spent tends to result in perceptions of the levy as a 'training tax' not as 'investment in training.' This can mean that enterprise training policy tends to be shaped more by amounts that have to be channelled into training rather than by real training needs. In addition, the French system is often perceived as overly complex and bureaucratic and there are concerns that the training market is being driven more by the financial concerns of the mutual organisations than by the real skills needs of individuals and enterprises.

Levy systems have been the subject of intense policy debate in a number of countries and there is still, perhaps inevitably, much disagreement about whether their benefits outweigh their costs. Research evidence is certainly inconclusive as to the effect of levy systems on training quality and appropriateness. However, there is some research evidence to suggest that levy systems in a number of countries have been associated with increased employer investment in training. Expenditure by French firms on training as a proportion of wages more than doubled in the 17 years after the introduction of the levy (Greenhalgh, 1999), reaching an estimated average of 3.1% of payroll by 1990. Most large firms admittedly invest much more than they are obliged to, and would probably do so without the levy; but small firm investment does appear to have been forced up by the levy.

According to Drake and Germe (1994), the Netherlands and Denmark also present positive cases where collectivisation of training contributions has been associated historically with increased investment in training (in these cases for apprentices). The Netherlands introduced sectoral levies in the early 1980s and by 1984 had 38 sectoral agreements, 29 of which included agreements on youth and adult training with training funds jointly managed by the social partners financed out of training levies. In 1985 there were 35 000 apprentices; by the end of the decade approximately 80 000. Denmark set up the Employers' Trainee Reimbursement scheme (or AER) in 1977 at the same time as it created a new form of school-led alternance training (EFG) alongside the traditional apprenticeship. The social partner organised AER collects a statutory levy from all private employers which is used to reimburse employers for part of the wages paid to apprentices and to EFG trainees at the enterprise. Between 1975 and 1984 the proportion of 17 year olds embarking on training increased from 23 to 40%. It would be hard to determine how far these associations represent causal effects. Drake and Germe's conclusion in respect of the Danish case was that 'the collectivisation of employer training costs through the AER helped to rebuild youth training opportunities when they were threatened' (Drake and Germe, 1994, p. 122).

3.5.3 Demand-led market regulation

The UK is alone amongst the comparator countries in lying almost entirely in the demand-led regulation category in terms of its approach to CVT. There is no social partnership tradition in the UK in the sense that it exists in Austria or France, where vocational training, pay, recruitment and licence to practice are all governed by social partnership arrangements. There is also no State legislation which enforces enterprises to undertake CVT. Rather than use compulsion, the voluntarist system rests on exhortation, standard-setting, the provision of good information and a wide range of financial incentives for both enterprises and individuals to undertake CVT (see Section 4.6 below). The Investors in People (IiP) initiative in the UK employs all these by setting standards for good practice in firms, providing government subsidies for firms to acquire IiP status, and providing a mechanism (the IiP kitemark) whereby good practice in firms is publicised and disseminated. Government steerage over the providers of external training is also significant. The move in 1993 to 'in-

corporate' further education colleges, which are the main providers of publicly funded CVT, both increased the power of central government to use funding levers to incentivise providers to offer certain types of CVT provision and encouraged them to compete with private providers in a quasi-market for this type of training.

Since the change of administration in the UK in 1997, however, there has been a mild reversal of this purely demand-led regulation towards an element of more local, regional and national planning and some involvement of all the social partners, rather than simply employers and the state, as was the case with Training and Enterprise Councils (Local Enterprise Councils in Scotland) and further education colleges boards under the previous Conservative administration.

There are four main potential benefits to the demand-led approach to CVT provision and funding. First, this type of system addresses the direct needs of employers and employees as they arise. Second, it does not suffer the problems of 'deadweight' associated with State-led regulation systems. Third, it is undoubtedly more flexible than either of the other two types of systems described above. Fourth, because this type of system both addresses direct needs and is more flexible, it could be seen as potentially more efficient. Deregulation allows the purchaser/provider concept to prevail, which means that providers have to compete in a quasi-market to satisfy customer needs.

However, as with both of the other two systems outlined above, there are disadvantages to demand-led regulation systems. Possibly the most often cited criticism of the ideal-type demand-led system is precisely that it relies on demand from both employers and individuals. Either or both of these parties may not make the demands which serve the national interest best in terms of skill development and international competitiveness. Individuals tend to underinvest in training because they are uncertain about its value, because they cannot be sure that future returns will outweigh the costs, and because they may be unable to access the capital to train in the first place. Employers, likewise, may well underinvest in training because they do not know what skills might be beneficial to productivity, because they cannot calculate precisely the future value of additional skills and because they may not capture the benefits in any case. The classic problem, much discussed in the UK literature on training, revolves around the problem of 'free-riding.' Employers may decide not to invest in training because they fear other employers will poach employees trained at their expense. It is often safer simply to pay a wage premium to buy in additional skills, and in the absence of sectoral wage agreements which deter this, this may be the most rational course (Hutton, 1995; Streeck, 1989).

Where no social-partnership arrangements are in place to create the links between recruitment, licence to practise, training and wages, demand for CVT cannot be assured. In addition, demand-led systems by their nature have no consistency of training patterns, do not lend themselves easily to planning and are likely to fluctuate with economic swings. This can be problematic for individuals, for enterprises and for national governments. Finally, both quality and equity become significant issues with pure demand-led regulated systems.

It is clear from the seven individual country financing portraits which have been included in this research paper that, although the majority currently lies between the State-led regulated and social-partnership led regulated systems, there is a desire to move towards demand-led regulated systems because of their ability to attract more private investment into CVT. However, the type of hybrid systems which this might create are more likely to lie towards the social partnership end of the continuum illustrated in Figure 4 to avoid some of the very real weaknesses associated with ideal type demand-led regulated systems.

3.6 Mechanisms for distributing resources to providers, enterprises and employees

European countries use a variety of mechanisms for distributing CVT funding, depend-

ing on its primary source and the existence of social partnership agreements. In this section we discuss briefly the main financial mechanisms used to distribute State and social partnership levy resources for CVT to training providers, enterprises and individuals.

3.6.1 CVT providers

Across the seven comparator countries, it is possible to distinguish three major mechanisms for distributing State and social partnership levy resources to CVT providers whether they are public, not-for-profit, non-governmental or private organisations. These are:

a) direct lump sum subsidies based on historical figures (e.g. Sweden in relation to adult municipal education);

b) allocation by units related to full-time equivalent students on particular courses (e.g. Denmark or Finland); and

c) allocation by units related to full-time equivalents on particular courses *but with a performance-related element also included* (e.g. UK and, in the future, the Netherlands).

There is currently a general move away from the first type of mechanism towards the second, with very few countries currently considering the third. This movement indicates a desire to have stronger control over the actual costs of training courses or programmes and is largely driven by a desire to increase efficiency and cost-effectiveness. Finland provides a clear example of how this policy objective has been put into operation: in that country the unit amount which training providers have received over the past few years has been reduced by a certain percentage each year by central government to increase volume of training while keeping overall expenditure the same. There are evident benefits in this type of mechanism, although it also raises issues of equity and quality. These concerns are of even greater relevance in relation to the third type of mechanism, as the UK case illustrates. A fuller discussion of these forms of funding was provided in Section 2.

3.6.2 Enterprises

Mechanisms for distributing State and social-partnership levy resources to enterprises can again be broadly divided into three types, although the last covers a very wide range of examples and could possibly be further subdivided. For the sake of simplicity, however, we will distinguish the following three mechanisms:

1. *allocation of commonly collected levy funds* through a calculation involving numbers of days of training entitlement per employee (e.g. the Netherlands O+O system);

2. *allocation of commonly collected levy funds* in relation to training plans (e.g. France);

3. *targeted State subsidy* via various forms of tax relief, loans and other subsidies based on actual demand and/or spend (e.g. corporate tax relief in Austria; the State providing enterprises with help in identifying skill needs and financial packages as a way of dealing with specific training problems in France; small firm training loans in the UK for firms of up to 50 employees, where the interest on a bank loan to be used for CVT is paid by the Department for Education and Employment and repayment is deferred).

The major distinctions between these three types of mechanisms are more than mechanical. The first emphasises fair distribution of commonly held resources, although it would be possible to see how it could be used to target specific areas of CVT, as well as to ensure equity of distribution between enterprises and employees. The second mechanism stresses the need for forward planning in relation to CVT, while still retaining a demand-led element. The third type of mechanism uses public funding to stimulate private demand for and investment in CVT. Only those countries which have social partnership arrangements make use of the first two types of mechanisms while all of the countries considered in this paper make use of the third type. This is not surprising given the national policy steers in all of these countries to both increase the demand for and supply of CVT, while reducing

the proportion which is funded by national government.

3.6.3 Individuals

It is possible to distinguish only two major mechanisms for distributing State and social partnership resources to individuals for undertaking CVT, although the first includes a very wide range of types within it:

- *targeted allocation via various forms of tax relief, loans or awards based on actual demand and/or spend* (e.g. in Austria the costs of CVT are deducted from income tax; in Finland study aid and study loans are distributed through the Centre for Student Financial Aid; in Denmark all labour market training courses provided in AMU centres are free and there is a subsidy of the maximum of unemployment benefit rate for all individuals; in the UK individuals wishing to change careers and needing CVT can apply for a career development loan which covers 80% of course fees and the full cost of books and equipment);

- *allocation of lump sums for individual learning accounts to be used for future CVT* (e.g. UK and, in the planning stage, Sweden).

Both of these financial mechanisms are designed to lever additional private funding into the CVT system. The first is by far the most prevalent in the seven comparator country systems. As its description implies, it has the same function as the third type of funding mechanism outlined above in relation to enterprises. In other words, the emphasis with this first mechanism is on targeting resources towards *current* training demand and specific CVT activities undertaken. The purpose lying behind this mechanism is to incentivise individuals to demand and to participate in CVT to increase the volume and range of CVT taking place overall. The second type of mechanism, on the other hand, although having a similar purpose, stresses the importance of building up a resource for *future* CVT needs, as well as focusing on current demand. This is a very new and experimental development in the UK and it remains to be seen whether it will succeed in stimulating the demand for CVT in that country.

3.7 The role of funding tiers

Since the majority of CVT is enterprise based and privately funded, the role of the different tiers of government is less relevant with this type of training than with either IVT or UVT.

As we have indicated earlier, in all of the seven country financing portraits covered in this paper, there is a general move towards decentralisation in terms of the administration of VET systems and also, in most cases, a desire to devolve responsibility for resource allocation to VET provider level where this is possible. This is both to encourage efficiency and also, in some cases, such as Denmark, Finland, the Netherlands and the UK, an attempt to introduce the concept of a quasi-market in VET provision by stimulating competition between providers. A general discussion of the benefits and dangers of these approaches is covered in Section 2 of this paper, so will not be repeated here.

3.8 Future trends

Although, as we have seen in an earlier part of this section, there are still major national differences between the approaches that the seven countries take to the financing of CVT, it does appear that there are some common themes lying behind their current policies in this area. We would suggest that a similar position applies in relation to future developments in the financing of CVT. The following five broad themes emerge as common to most, if not all, of the seven countries examined in this paper:

1. A concern for equity of distribution of CVT opportunities and resources among different enterprises, sectors and individuals, particularly in relation to small and medium enterprises.

2. A desire to continue to expand the volume and range of CVT taking place, at the same time as increasing the proportion of private funding used to resource this expansion.

3. An interest in developing national certification frameworks to accredit the whole range of CVT activities and programmes in order to make this type of training more transparent, attractive and credible.

4. A need to improve on the data collection and analysis of CVT activities and their cost.

5. An emphasis on developing more sophisticated financing mechanisms which attempt to focus on outcomes from as well as inputs to CVT and to stimulate competition between providers of CVT.

4. Financing training for the unemployed

4.1 Background and definitions

Combating unemployment is a major social and economic agenda item for most EU countries. The unemployment rate surged in the late 1980s and the early 1990s, and has continued to increase, or remained high, thereafter in most. In the 1990s, the problem has affected young people in particular, and the surge in youth unemployment has intensified the sense of crisis. While there has been some improvement in the unemployment rate and the general economic situation, intensified global competition and rapid changes in technology, production systems and work practices have made job security yet more vulnerable. Even for those who are currently employed, the situation has required them constantly to upgrade their skills to keep up with the pace of change and thus retain their jobs. Under these circumstances, the integration of unemployed persons into the labour market has become increasingly difficult, and for the long-term unemployed and/or those who have a low level of qualification or face extra social and physical handicaps, the prospect of securing employment has become narrower. In this context, the problem of unemployment is increasingly being discussed in association with the issue of social exclusion.

Training for the unemployed (UVT) is designed to help the jobless return to work by raising their general qualifications or skills. However, the definitions of UVT vary considerably from one country to another, and any cross-national comparisons should take this into consideration. In terms of target groups, UVT programmes are for those who are aged 20 and over and registered as being unemployed (Finland and Sweden); or those who are aged 19 and over and entitled to claim unemployment benefit (UK). However, special training programmes for the unemployed such as 'Training for Work' (TfW) and 'New Deal' in the UK include those who are aged 18 (even though others at the age who participate in YT and apprenticeships are funded as part of IVT). UVT in Denmark also includes activation schemes for those who are under the age of 25. In contrast, 'TRACE' in France (a special employment contract scheme for tackling youth unemployment) includes those up to the age of 24 as part of IVT.

Training for the unemployed is normally part of a larger concerted reintegration measure to help the unemployed gain employment. The major reintegration measures, which may or may not constitute part of UVT funding, can be categorised as follows:

- training programmes (institutional-based programmes including both general and vocational training and education; special training for literacy, low self-esteem, motivation; other training to widen the capacity for social participation);
- workplace training and experience[10];
- job creation, matching and pooling (including special employment contracts);
- other support schemes (including guidance, assessment, job clubs and support for living and travel allowances);
- cluster programmes which combine the above integration schemes.

[10] Work experience or work-based training either in a private company or a public or voluntary organisation. 'Work experience' includes unpaid placements in firms and organisations as part of a school-based vocational programme (*stages* in France).

107

Severe labour market conditions, notably the high level of unemployment, have led many governments in the EU to review and modify their existing approaches to the issue of unemployment. In policy terms, these changes are characterised by a shift from a passive approach in the past (which relies heavily on unemployment benefits) to a more *active labour market approach* (which places emphasis on training and reintegration). This shift is having a profound impact on the way UVT is delivered and how funding is utilised.

Participating in training to increase the chances of gaining, or returning to, employment has been strongly encouraged in some cases by legislation (i.e. Denmark, Finland). At the same time, considerable effort has been made to provide the unemployed with more comprehensive and coordinated support. This is exemplified by the increased numbers of targeted programmes which offer a wide range of training options as well as personal advice and monitoring, to integrate diversified types of unemployed people. Greater attention has been given to individual needs through tailor-made approaches to training as an option for effective integration.

While training programmes and work-based training experience (the first two on the above list) have been, and continue to be, the main strands of integration schemes, considerable investment is being made to enhance the other approaches to getting people back in the workforce. TRACE in France is now being extended to include the long-term unemployed who are aged 25 and over. The contract does not necessarily include training, which is optional. A part of UVT funding has been redirected to finance a new job pooling (subsidised job) scheme in the Netherlands since 1996. In the UK, employment zones were created in February 1998 to help the long-term unemployed who live in areas of high unemployment with training (i.e. allowances to participants). Furthermore, the recent establishment of regional development agencies in the UK is designed to support the better planning and coordination between regional economic development and skills development of the workforce, which raises a prospect for better integration of the unemployed. The trend seems to reflect an 'active' policy towards tackling unemployment and the growing recognition that while training is often a necessary aspect of integration, it is often not sufficient and needs to be coordinated and supplemented with non-training measures.

This section of the paper reviews the recent changes in UVT funding in seven EU countries and discusses the major trends and debates involved to gauge the nature of change and its variation in different national contexts. The section is organised into three parts. First, it attempts to see whether there is a general trend in approaches to training the unemployed in light of active labour market policies, and discusses how this is influencing the level of funding. Then, it considers different factors influencing the total level of funding, and reviews different sources of UVT financing. The second part focuses on major changes in administrative systems which are responding to the pressure to achieve greater efficiency. The third part discusses in more detail the trends in distribution mechanisms.

4.2 Trends in types of training programmes

Financing training for the unemployed needs to be understood in the light of changes in approaches to addressing unemployment. It involves prioritising different training programmes or introducing new programmes, both of which have large financial implications.

In most countries, governments have increased the consolidation of different training schemes under special programmes, and thus there is a growing trend towards the special programme approach. The programmes commonly feature a combination of the integration schemes discussed earlier, with personal assistance and mentoring. This may include assessment and other mobilisation measures (Denmark, France and the UK) to provide a comprehensive and coordinated approach to integration of the unemployed.

These government programmes include the following examples:

- The 'New Deal' was launched in the UK in 1994 initially to address young people (18 to 24) who were unemployed for more than six months. The programme has been extended to include those aged 25 and over and unemployed for more than two years. Loneparents and disabled people were also seen as target groups;
- 'Employment Programme', initiated in Denmark in 1994, stipulates that unemployed people receiving social security allowance are to be 'activated' through job training or general education after more than two years of unemployment. Everyone under the age of 25 with low-level skills and receiving an allowance, have to be working or in training after more than six months of unemployment. The programme also attempts to ensure that those who are employed have the right to training to retain their jobs;
- 'Trade-Wise Training for the Unemployed (BBSW)', which fills the gap created by labour market imperfections and 'General Training Measure (KRS)', which involve tailor-made programmes, are the major initiatives of the Dutch government;
- 'TRACE' (employment access routes) in France is a special employment contract targeting young unemployed persons since March 1998 (dealt with as part of IVT funding in France).

A general increase in the number of targeted government programmes is reflected in the increase in funding towards these specific programmes. The New Deal will increase the level of UVT funding in England from GBP 560 million in 1996-97 to GBP 974 million in 1998-99. In the Netherlands, 20% of the total budget which previously funded two types of training institutions, is now allocated to fund the special national programmes mentioned above.

Another emerging trend seems to be the tailor-made individual approach to training. In France, the government launched a new programme in early 1998, which is characterised by tailor-made individual action plans and personal monitoring. The Act on Active Labour Market Policy (1993) in Denmark encompasses the development of 'individual action plans' before providing people with specific training options. One of the government programmes started in the Netherlands in 1996, the General Training Measure (KRS), provides tailor-made individual training programmes as well. The New Deal is also similar and the introduction of such assistance was suggested in France in April 1998.

The seven comparator countries exhibit a general trend towards expanding the options of training. This seems to be a reflection of the fact that governments are increasingly aware of the diversified character of the unemployed and see providing more options as a way of meeting a broader range of needs for greater inclusion. More targeted training programmes appear to provide a more effective avenue for reducing unemployment. However, these programmes are by nature more expensive to provide, because they are tailored to individual needs and provide a wider range of options. As a result, the added effectiveness must be considered in the light of the increased costs.

4.3 General trends in the level of funding for UVT

4.3.1 Total expenditure on UVT

Table 1 provides a comparison of the level of total expenditure on UVT in 1996. The figures were drawn from the country reports (1998/99) as there is limited availability of other comparative data at this stage. The level of funding as a proportion of GDP in 1996 ranges from 0.09% to 0.62%; the highest funding is seen in Denmark – interestingly where the employment situation has improved in recent years. The trend data are limited at this stage to those of France and Finland which both show upward trends (from 0.21% in 1986 to 0.36% in 1996 in France; from 0.31% in 1986 to 0.55% in 1996 in Finland). The low level of funding in the UK reflects a continuous decline in the expenditure for UVT in England (from GBP 1257 million in 1986 to GBP 560 million in 1996)[11]. This reduction is

[11] The equivalent in ECU is 688 million (1996).

Table 1: The level of funding for UVT as proportion of GDP in 1996 (%)

Denmark	0.62
Finland	0.55
France	0.36
Netherlands	0.2
Sweden	0.4
UK	0.09

Source: Cedefop (1999).
Notes: The figure for Sweden is for 1997. The level of funding for the UK includes funding for 'Training for Work', colleges offering courses for the unemployed as well as funding for Scotland, Wales and Northern Ireland.

thought to be due to a decline in unemployment and also to more efficient and focused programme delivery (UK, 1998, p. 61). However, the launch of the New Deal with a budget of GBP 637 (ECU 937 million) in 1998 will make more than double the amount of funding available in England.

The table may provide a basis for a general comparison in terms of the level of UVT funding. However, comparisons of this type provide only a partial picture. This is because definitions of UVT vary considerably from one country to another. As mentioned, training is only one of many different measures used to combat unemployment. This means that various reintegration schemes other than training may be included as part of UVT funding. UVT in Denmark, for example, includes a wide range of activation schemes including job pooling and wage subsidies. The New Deal programme in the UK provides an even wider range of support schemes. Funding for UVT in Finland includes funding for overall unemployment benefits to finance the living expenses of unemployed persons. On the other hand, UVT funding in Sweden includes only training elements. As indicated, the different approaches to training younger people makes a cross-national comparison particularly difficult.

4.3.2 Unemployment and total level of funding for UVT

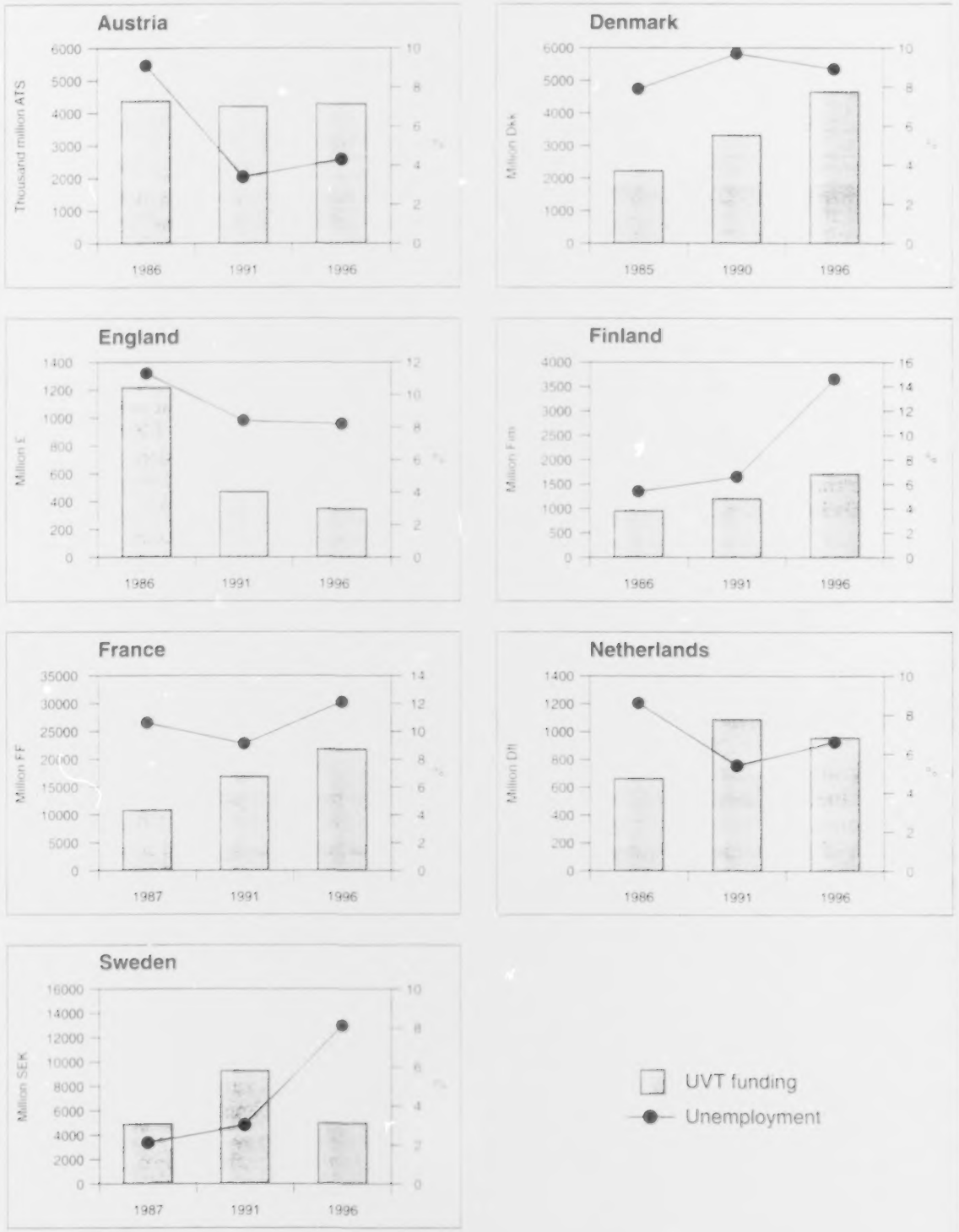
The level of funding for UVT generally corresponds to the level of unemployment in a country as more people are eligible for training. However, this provides only a partial explanation for funding levels and a number of other factors, including political ones, may be equally influential. In some cases, UVT expenditure has increased even as unemployment has declined (Denmark, UK) or expenditure has declined while unemployment has increased (Sweden).

The increase in unemployment since the late 1980s is reflected in increased funding in the early 1990s. This was true for most comparator countries with the exception of the UK where unemployment rates have been in decline since 1986. Worsening unemployment after the mid-1990s has also brought further increases in funding (e.g. in France and Finland). The sharp increase in unemployment in Finland corresponds to a 130% increase in the volume of training provision between 1991 and 1996.

The relationship between unemployment rates and the level of funding is not always straightforward, however (Figure 5). In Denmark, the funding level continued to increase even though the employment situation improved in recent years. The same was true of the UK which launched a major initiative (New Deal) in 1998 as unemployment continued to fall. The opposite has been true of Sweden where the level of UVT funding has been reduced substantially, despite a sharp increase in unemployment between 1991 and 1996. A reduction in the level of unemployment in France in the early 1990s and in the Netherlands may be virtually attributed to an increased level of funding. However, as other studies indicated, a general correlation is usually difficult to establish, and thus the relationship between the level of unemployment and UVT funding is not definite and conclusive.

This indicates that various factors other than the level of unemployment can influence the level of funding for UVT. The Danish experience suggests that while increased numbers of people are finding jobs, those who remain unemployed require more intensive and possibly more expensive training efforts. The complexity involved in addressing long-term unemployment and the need for a multifac-

Figure 5: Unemployment and VET funding



111

Table 2: The proportion of UVT expenditure in total VET funding

	1986/87	1991	1996/97
Austria	9.1	9.1	9.8
Denmark	17.8	24.3	22.8
Finland	11.7	11.1	16.0
France	9.8	11.4	12.9
Netherlands	7.3	10.2	8.3
Sweden			9.4
UK	38.7	21.1	16.3

Source: Cedefop (1999).
Notes: The figures for Denmark are for 1985, 1990 and 1996 respectively. The figures for UK are based on public recurrent expenditure on VET in England only.

eted approach to reach the diversified profile of the unemployed may imply a higher level of financing for intensive, innovative and new training schemes. Above all, the government's political will to combat unemployment seems to be the largest factor influencing the level of funding. In this regard, including the problem of unemployment as part of social exclusion (as in France and the UK) seems to be a substantial driving force behind the recent upward movement in funding.

4.3.3 Share of UVT in total VET expenditure

Table 2 shows trends in the proportion of UVT expenditure in total VET expenditure.

Despite the improvement in unemployment, the proportion of UVT in Denmark is the largest and accounts for a fifth of total public VET expenditure. The increased proportions in Finland and France seem to reflect worsening unemployment. In France, however, the political priority placed on tackling social exclusion and funding for the unemployed are major contributing factors in the recent increase in funding. The proportion in the UK has continued to decline since 1986; however, the budget for the New Deal will reverse this trend and bring a substantial increase. Aside from these specific examples, it is difficult to determine the extent to which governments are making a conscious choice to dedicate a greater portion of VET to UVT. This is because of other factors (such as the unemployment level) which affect the level and therefore the proportion of UVT funding.

4.3.4 Target groups

While past approaches tended to treat the unemployed as a monolithic entity, the current trend involves differentiating between categories of people whose joblessness is based on different underlying factors. The idea behind this approach seems to be to target the causes with specific enabling measures. As such, greater emphasis is observed in addressing youth and long-term unemployment, as well as the problems of those who face particular difficulties in reintegrating into the labour market. This is demonstrated by the increased number of, and funding for, targeted programmes. A full 78% of the funding of the New Deal will be allocated to combat youth unemployment, thus causing a substantial increase in funding this area of UVT. Likewise, the TRACE programme in France was launched initially to address young unemployed persons. In Finland, several governmental decisions were made in 1995-96 to facilitate employment for young people. Similarly, a special scheme for young people under 25 was introduced in Denmark in 1996.

As mentioned, the issue of unemployment is now associated with the problem of social exclusion. Such exclusion may take a variety of forms and include, disproportionately, those with few qualifications, immigrants, the elderly, women, the disabled, ethnic minorities, prisoners and others. Targeting allows for increased attention to a particular group whose joblessness is compounded by these social disadvantages. Both the New Deal and TRACE programmes have now been extended to include adult and long-term unemployed persons as well as people with extra difficulties. A new government initiative to combat social exclusion launched in France in 1998 will increase the overall budget for UVT, particularly for those who face difficulties (i.e. job seekers who are disabled, illiterate, prisoners, immigrants, women, or elderly people). In Denmark, the government indicate that groups which are currently marginalised in the labour market (i.e. ethnic minorities) or

are not part of labour force (persons on early retirement) should be better integrated.

4.3.5 Sources of funding

While funding for training the unemployed comes from a variety of public and private sources, this area of VET relies predominantly on public sources while the use of private funds has been limited. The major sources of UVT funding include:

- general taxation at national level;
- general taxation at regional level;
- unemployment insurance funds;
- contributions from private companies and individual households;
- contributions from social partners and other public authorities;
- EU subsidies.

There is a general consensus which recognises that UVT is an area of public responsibility, while the training for employees is increasingly seen as the responsibility of private companies. Within the public sector, the central government is the sole provider of UVT funding in most cases, although in some cases (Denmark, France) regional/municipal governments part share the cost, notably where funds are used for those not insured (Denmark). Social partners, including the chambers of commerce, may also contribute to UVT financing (France).

In three of the seven comparator countries (Denmark, France, Finland) some support for UVT was provided by private funding. Private companies mostly provide indirect financing, which constitutes a partial payment (often the differences between the salaries and subsidies provided by public funds) for the service provided by those unemployed persons who are on work-experience schemes (Denmark, France). A small contribution from private households has been initiated in one instance (France). While small, the scope for funding from companies may be slowly widening, as is the case in Finland. In that country, when a company restructures its production and needs people with new skills (or needs to retrain existing employees) employers provide on average 50% of the cost of joint-training programmes. Private companies in Finland also contribute to EU programmes including the salaries paid to apprentices. The proportion of funding from private contributions remains small, however, providing only 6% of the total funding[12] for UVT in 1996 (Finland, 1998, p. 73). However, given the fact that private sources did not exist prior to 1991, the example may widen the scope of private contribution to the area of UVT in other countries.

In addition to these major and regular sources, governments may use exceptional funding sources to launch new programmes. The UK used proceeds from a windfall tax on the privatisation of its public companies during the 1980s and the 1990s to cover the initial cost of a new UVT programme (New Deal).

The UK example indicates the possibilities of identifying alternative sources of funding for UVT within the public domain. Most alternatives seem to involve ways to reallocate, or 'activate', public funds to finance UVT without raising the overall level of State expenditure. The most notable example is to finance training by using unemployment benefits. A part of trainee pay in France is now partly financed by funds channelled into unemployment insurance. The guiding principle of this change is the 'activation' policy. By providing unemployed persons with trainee pay out of unemployment benefits, it makes it possible to 'activate' a part of the 'passive' expenditure. In a similar manner, the Netherlands' government has reinvested the surplus created from the reduction of the number of regional administration offices into job creation schemes.

4.4 Funding structures

While different methods to achieve greater efficiency in the provision of training are be-

[12] Of 6%, 2.5% is an indirect contribution and provided in the form of salaries to apprentices in EU-funded programmes.

ing debated, major changes can be classified under three headings:

a) trends towards decentralisation;

b) trends towards increased central government interventions under a strong partnership; and

c) trends towards marketisation.

4.4.1 Trends towards decentralisation and its implications

In many cases, funds are distributed through multiple stages within a single structure from the central government to its regional bodies and sometimes then to local employment offices (Denmark, Finland, the Netherlands and Sweden). Responsibilities have increasingly been transferred from the central administrative body to local/regional administrative bodies (Netherlands and Denmark). Decentralisation has been undertaken in different ways, however. In Denmark, it has involved a greater delegation of tasks by the National Employment Council to regional labour market councils. A supplement fund, which became available after the passage of the Act on Active Employment Policy in Denmark in 1996, is directly allocated to these regional councils. However, in the Netherlands, the number of local administrative bodies will be reduced, and instead the administration of a part of the budget (purchasing of training) will be transferred from local administrative bodies (which are regional executive bodies of the central government) to municipal governments.

As a result of increased decentralisation, the basis for the distribution of funds and the mechanisms involved in providing training for the unemployed are likely to vary considerably between different regions (or municipalities) within a country. Although decentralisation may increase the efficiency of a programme, the diversification of programmes has raised concerns with regard to whether the move will make monitoring and evaluation of training more problematic (Netherlands).

The distribution mechanism in France offers an alternative model, which is based on 'role sharing' between the central government, regional governments and social partners as discussed in the previous sections[13]. However, some elements of the new government programme, TRACE, and the extension of the employment contract (to include those aged 25 and over), do not abide by the existing arrangements for role sharing and general concerns have been raised. This may indicate a limited scope for flexibility with the role-sharing approach.

4.4.2 Greater government intervention under a strong partnership

A general move towards decentralisation is not clearcut, however, and it seems to be taking place in tandem with the increased use of direct interventions by central governments to provide specific programmes to combat unemployment. In the case of the Netherlands, while the responsibilities of regional administrative offices are increasingly being transferred to municipal governments, the responsibilities of regional administrative bodies (which administer funds for training) are being reduced. The focus of their responsibilities in the future will be the delivery of specially targeted government programmes. As a result, training programmes will be administered by a two-tier administrative system, including municipal governments and the central government through its regional administrative bodies.

The introduction of the New Deal programme has created a two-tier administrative system in the UK as well. The New Deal is administered by an executive agency of the ministry (Employment Service), to which local partners bid for funding, while other programmes (including TfW) will be administered by local

[13] As discussed, there is a trend in which central governments are increasingly focusing on those who face extra difficulties for reintegration (i.e. those with social handicaps who are victims of social exclusion). Regional governments in France have, by law, powers over vocational training for young people. UNEDIC focuses mainly on vocational retraining. The trend in terms of the demarcation of responsibility of the central government clearly applies to the case of the UK.

administrative bodies (TEC)[14]. In France, funds are divided between three broad types of training programme, administered by the central government, the regional governments and UNEDIC (social partners) respectively.

These examples suggest that despite a general trend across VET towards decentralisation, the scope seems to be rather limited in the area of UVT. While 'the decentralisation law' guides reforms of CVT in France, the central government still has a firm grip on training for the unemployed. In the UK and France, and to a lesser extent in the Netherlands, administrative mechanisms seem to reflect changes in their approaches to address unemployment, which are characterised by a greater direct government intervention under a system of strong partnership.

The causes behind greater direct government intervention are various. This trend may simply reflect a general consensus that the issue of unemployment needs to be dealt with at national level. It may also be one of the government's tactics to diversify options available for the unemployed persons for reintegration. Greater flexibility seems to be associated with the targeted programme approach. Availability of a large fund, as in the UK 'windfall tax', might have allowed the government to create a route for direct intervention. As government programmes tend to target specific groups with particular difficulties in reintegrating, the move seems to indicate rather a clearer division of roles between central government and regional governments.

4.4.3 A greater move towards privatisation

A trend towards privatisation of provision (as opposed to funding), which characterises VET in general in the seven countries, is clearly observed in UVT (e.g. in Denmark, Finland, Netherlands and Sweden). The privatisation of training for the unemployed means that the current public training institutions will have to compete with private and other training suppliers for market share. This seems to reflect a trend to make UVT more demand-driven, in which training providers offer more responsive and attractive training. Designed to rectify the dominance of public training institutions, privatisation is seen to increase efficiency and quality in the provision of training.

The impact of privatisation has been considerable. The proportion of UVT provided by public institutions dropped significantly in Sweden from 74% in 1989/90 to 29% in 1997. Meanwhile the proportion provided by private institutions increased significantly from 7 to 58%. Finland has experienced a similar outcome as the proportion provided by public institutions declined from 76% in 1991 to 57% in 1996, while that of other institutions increased from 20 to 28% during the same period. So far, the change has been seen as a success in Finland despite initial concern, partly as it contributed to raising the organisational flexibility of these public institutions. The full implication of privatisation to the existing training institutions and mechanisms requires further investigation, however.

4.5 Distribution and funding mechanisms

4.5.1 Flows of funds (changes in the relations between central governments and local administrative bodies)

In the traditional approach to funding distribution, the central government (or a national board) makes decisions on the basis of labour market trends and funds are then allocated to its regional bodies to implement national labour policies. A proportion of funding may be allocated on the basis that each regional body can use its discretion in supporting the activities and specific needs of their region. Even in this case the central government still provides a national framework which sets out priorities (e.g. Sweden, the Netherlands before recent reforms).

[14] It was announced in the 1999 White Paper, *Learning to succeed*, that TECs will be subsumed into new local Learning and Skills Councils.

There is a general trend, however, away from this centralised top-down approach and a move toward greater 'negotiation' between central governments and then regional bodies on the implementation of labour policy at regional level. In this approach, the ministry (or national board) negotiates with the regional bodies on the implementation of labour policy at regional level and provides funding on the basis of agreements which include performance targets and the details of implementation (e.g. in Finland and the UK). This has led to an increased emphasis on 'performance', and promoted a new mechanism, the so-called 'performance-based steering and budgeting approach'. The trend here mirrors the trend in relation to contract funding discussed in Section 2.6.

Under the new approach, the level of funding is determined by an implementation plan (which typically includes numbers of trainees and types/level of training to be provided) submitted by regional bodies to the central governments (or national boards). The main bases for funding include: the cost of the training course; the cost of each training day per participant (i.e. trainee pay and benefits); and the number of trainees. The actual formulae for calculation vary considerably from one country to another. Funding to municipalities in Denmark is allocated based on a single formula in which the ministry reimburses 50% of activation costs per person up to a margin of DKK 9.618. The UK is the only country, among the comparator countries, which directly links performance of training to the level of funding. The funding level for UVT is decided by a combination of start payment (flat rate of GBP 1475) and output-related payment. About 65% of funding is currently output related, although the level varies from one TEC to another.

Despite a growing 'negotiation-based' approach and a greater delegation of responsibilities to regional bodies and social partners, central governments seem to be maintaining their grip on power in the implementation of UVT and national and regional coordination remains intact. Despite a move towards decentralisation, the Ministry of Labour and the National Council still influence regional policy through government targets in Denmark. In Finland, the ministry outlines general rules concerning the purchase of training for the unemployed. In terms of the extent of discretion and power given to local authorities in distributing funds, the UK had been an exceptional case in which its local agencies (TEC) have been able to exercise considerable discretion in the funding and contracting arrangements with training providers. The system has brought about flexibility in the system; however it has created considerable variation between regions and local communities depending on the particular TEC involved (UK). Incidents of waste and misuse of funds have also dented confidence in this system which is now to be replaced. While there is a growing interest in decentralisation in many EU countries, the introduction of the New Deal seems to be bringing national coordination and close monitoring back in place in the UK.

4.5.2 Distribution mechanisms for training providers

Within the single structure approach to distribution, training providers can only seek funding through local administrative bodies. This is changing. With the addition of new government programmes, a multisource structure for funding distribution is now developing. For example, funds in the UK were previously distributed within a single structure (from DfEE to local TEC to purchase training from training institutions). However, the introduction of the New Deal has created another channel from which training institutions may seek funding. From the year 2000, the Netherlands is expected to have two channels for funding distribution so that training suppliers can seek funding either through the regional bodies of the central government, or through municipal governments.

Contract approaches to funding, sometimes including the specification of performance targets, are also being adopted. Dutch government programmes started in 1996 adopt a tender approach through which any training provider can seek funding. These tenders specify such things as performance targets, types of training and target groups. The UK

also uses performance contracts for the funding of TEC which, in turn, use output-related funding contracts for IVT and UVT providers (see Section 2).

The effects of output related funding (ORF) have been much debated, and we discussed this issue in relation to IVT provision above (Section 2.6). In the UK, ORF has provided TEC with a significant financial incentive which, according to some analysts, has had a positive impact on performance through changes in TEC and provider behaviour (Coopers and Lybrand, 1998). However, not all assessments of ORF are positive. The defects of the ORF mechanism – such as its tendency to focus on short-term results or to avoid difficult or expensive trainees – have also been highlighted. Given the complexities and difficulties of reintegrating long-term unemployed people or people with particular difficulties, focusing too much on 'output' may be too crude a measure for assessing 'performance'. As such, linking it to funding level may counteract the mission and purpose of training for the unemployed.

5. Conclusion

Vocational education and training has remained high on national policy agendas within the EU during the past decade. This is because of its importance for national economic competitiveness and because it is seen as one way to combat social exclusion and particularly that caused by high youth unemployment and long term unemployment. Rapid changes in technology and work organisation, combined with the ageing of populations and workforces, is encouraging the vision of a seamless lifelong learning provision. This places particular emphasis on the development of CVT which remains very unevenly distributed in many countries (European Commission, 1999). EU countries have generally increased their investments in VET, particularly from public sources. However, further improvements in lifelong learning will undoubtedly place strain on public finances in many countries and therefore raise issues about how public costs can be contained.

Both IVT and UVT remain funded predominantly by the State throughout the EU. There has been some decentralisation in the allocation of funds to lower tiers, but there have been few attempts to encourage greater private investment in these areas and there is no clear evidence that the proportion of investment met by the State is decreasing. Public spending on IVT continues to rise in real terms in many countries, although there are some examples of countries achieving reductions in unit costs. Patterns of public spending on UVT are more varied since they relate to changing levels of unemployment. Some countries have managed to reduce public spending in this area in real terms (usually, as in the UK, when unemployment has been in decline) but in other countries costs have continued to rise even when unemployment has been static or in slight decline.

CVT is an area where there is relatively unlimited potential for expansion and cost escalation and therefore the focus of most concern about public affordability. Total spending on CVT between 1986 and 1996 appears to have risen in real terms in most of the comparator countries in this study, in some cases substantially (Denmark, Finland and the Netherlands). The UK provides no trend data and only Austria seems to have had relatively stable expenditure. Several countries have taken initiatives to spread the costs more widely and to encourage greater investment by individuals and enterprises and this trend is likely to continue. The data are insufficient to say with any certainty whether this has altered the relative shares of costs borne by different parties. The French portrait reports a slight increase in the enterprise share of funding, and the reports from Denmark, Finland and the Netherlands estimate an increase in the public share, but in each case with a strong caveat. Individual funding of CVT is still at comparatively low levels and there is no evidence to suggest that it is rising substantially, despite frequent efforts to encourage it (although the pattern may be different in the type of CVT which takes place in higher education which is not considered here).

Governments have made extensive efforts to contain public costs in all areas of VET by

introducing measures to increase efficiency. These have involved decentralisation of regulation and funding and new funding allocation mechanisms based on more precise measures of inputs and outputs. In some cases these have been accompanied by significant levels of institutional autonomy and measures to stimulate competition between institutions. Whether these measures will actually increase the efficiency of systems is still hard to say. There are certainly cases (as in Finland and the UK) where unit costs have been reduced, although whether this can be attributed to the effects of decentralisation, new funding mechanisms, or policies designed to stimulate competition, it is impossible to determine. Unit costs can also be driven down simply by government fiat – i.e. through lower government funding per unit, however, this is measured. It is also not known in most cases whether these measures have any negative effects on quality, consistency of standards, and the distribution of opportunities, although it would be logical to assume that they might. There is some evidence that extreme forms of output-related funding can have unintended and damaging effects. It seems to be highly likely that some of the efficiency gains from new forms of funding may, at least partially, be offset by increased transaction costs at local level and by the need for more extensive and costly central monitoring.

Future trends are likely to involve more widespread experimentation with new financing systems, although tempered by a growing awareness of the need to avoid unwanted 'distortionary' effects. This may encourage the design of more sophisticated performance measures which seek to take account of the full range of benefits sought from VET and the element of value added by institutions. Further decentralisation is likely in a number of countries, although this may well be counterbalanced by greater central power in strategic areas, where enhanced standard-setting, monitoring and steerage may be necessary. The encouragement of more private competition in supply, particularly in the field of CVT, is also likely, but it would appear that the appetite for introducing anything approaching full market systems in IVT and UVT is still limited in most countries. Lastly, there would seem to be a clear move in many countries towards the consolidation of frameworks for the funding and regulation of the rather heterogeneous VET sectors to enhance both efficiency and effectiveness. This may be part of a broader trend towards more concerted policy-making and greater interdepartmental cooperation in the development of multi-agency approaches to social issues. The effectiveness of policy formulation in all these areas would be greatly enhanced by improved national and cross-national data on VET funding and by more systematic research evaluating the effects of reforms.

Bibliography

Cedefop, 1999 (Hansen M.E.). *The financing of vocational education and training in Denmark*. Thessaloniki: Cedefop

Cedefop, 1999 (Pitkanen K.). *The financing of vocational education and training in Finland*. Thessaloniki: Cedefop

Cedefop, 1999 (Michelet V.). *The financing of vocational education and training in France*. Thessaloniki: Cedefop

Cedefop, 1999 (Romijn C.). *The financing of vocational education and training in the Netherlands*. Thessaloniki: Cedefop

Cedefop, 1999 (Atkinson D.). *The financing of vocational education and training in the UK*. Thessaloniki: Cedefop

Cedefop, 1999 (Hörtnagl M.). *The financing of vocational education and training in Austria*. Thessaloniki: Cedefop

Cedefop, 1999. *The financing of vocational education and training in Sweden* (draft from Cedefop)

Coopers and Lybrand, 1996. *The budgetary implications of education and training in the Member States of the European Union*. Brussels: European Commission

Coopers and Lybrand, 1998. *The budgetary implications of education and training in the Member States of the European Union*: A survey carried out on behalf of the European Commission. Brussels: European Commission

Department for Education and Employment (DfEE), 1999. White Paper: *Learning to succeed*. London: Stationary Office

Drake K., Germe J.-F., 1994. *Financing continuing training: what are the lessons from international comparison?* Synthesis report. Berlin: Cedefop

European Commission, 1999. *Continuing training in enterprises: facts and figures*. European Training Youth. Brussels: European Commission

European Commission, 1997a. *Continuing vocational training survey in enterprises*. Brussels: European Commission

European Commission, Eurostat, Cedefop, 1997b. *Key data on vocational training in the European Union*. DGXXII, Luxembourg: EUR-OP

Felstead A., 1994. Further government training schemes: mechanisms and consequences. *British Journal of Education and Work*, **7** (3)

Fealstead A. 1998. *Output-related funding in vocational education and training*. Thessaloniki: Cedefop

Green A., Wolf A., Leney T., 1999. *Convergence and divergence in European education and training systems*. London: Institute of Education

Green A., Mace J., 1994. *Funding training outcomes: performance-related funding in the USA*. Working paper 15. London: Institute of Education Post-16 Education Centre

Greenhalgh C., 1999. Adult vocational training and government policy in France and Britain. *Oxford Review of Economic Policy*, **15** (1), pp. 99-113

Hodgkinson P., Sparkes A., 1994. The myth of the market: the regulation of training in Youth Credits pilot schemes. *British Journal of Education and Work*, **7** (3)

Hutton W., 1995. *The state we're in*. Chatham. Kent: Mackeys

Kath F., 1998. Financing of vocational education and training. *In*: Cedefop, ed. *Vocational education and training – the European research field*. Thessaloniki: Cedefop

Le Grand J., Bartlett W., 1993. *Quasi markets and social policy*. London: Macmillan

OECD, 1986. *Education and training beyond basic schooling*. Paris: OECD

OECD, 1990. *Pathways to learning*. Paris: OECD

OECD, 1995. *Decision-making in 14 OECD education systems*. Paris: CERI

OECD, 1996. *Lifelong learning for all*. Paris: OECD

OECD, 1998 (Green A., Hodgson A., Williams G.) Synthesis of country reports on alternative approaches to financing lifelong learning. Paris: OECD

119

OECD, 1999. *Synthesis of country reports on alternative approaches to financing lifelong learning*. Paris: OECD

Sheldrake J., Vickerstaff S., 1987. *The history of industrial training in Britain*. Aldershot: Avebury

Streeck W., 1989. Skills and the limits of neo-liberalism: the enterprise of the future as a place of learning. *Work, employment and society*, 3 (1), pp. 89-104

Wagner A., 2000. The German apprentice system under strain. *In*: Culpepper P., Finegold D., eds. *The German skills machine* (forthcoming Berghahn books)

120

How to improve the standing of vocational compared to general education

A collaborative investigation of strategies and qualifications across Europe

Johanna Lasonen, Sabine Manning

Abstract

This contribution is mainly based on research results provided by major partnership projects including 'Post-16 Strategies / SPES-NET' coordinated by the Institute for Educational Research, University of Jyväskylä, and INTEQUAL / DUOQUAL coordinated by the Research Forum WIFO, Berlin. The SPES-NET and DUOQUAL projects are still running and, therefore, final results are not available yet.

In analysing the standing of vocational vis-à-vis general education (the 'standing') in European countries, three levels are considered: course / curriculum, education system and labour market. On this basis, a model of criteria is applied which relates the 'standing' to the quality of VET. The three criteria are personal competence (including skills), educational mobility (for lifelong learning), and occupational mobility (in the labour market).

Four reform strategies have been identified in European upper secondary education systems for promoting parity of esteem between vocational and general education. These are vocational enhancement, mutual enrichment, links and unification. After extending the partnership, the categories of strategies have been reconsidered. The focus has shifted from four to one strategy, enhancement, which has been analysed more broadly than just as a single strategy. Each of the previous strategies and the extended partner countries' reforms have been reviewed in the light of the new four substrategies identified by the SPES-NET partnership. The additional substrategies are:

a) promoting links with higher education;
b) enhancing links with employers;
c) raising the status and qualifications of VET teachers and trainers; and
d) improving the VET curriculum.

All the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for qualitative changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, new technology, patterns of occupational mobility and the pace of change itself are seen to require increased adaptability, capacity to learn new skills in the future, personal and transferable skills.

An initiative taken in several countries is to provide the option for trainees or students of vocational programmes to acquire qualifications for university access alongside their vocational qualifications. These dual qualifications potentially live up to the criteria identified for high standing of VET: providing personal competence and facilitating mobility both in the education system and the labour market. They contribute to an upward trend of differentiation within vocational secondary education. The challenge for educational policy, therefore, is to ensure that schemes of dual qualification are part of a transparent and flexible system, being accessible from any point and linking up with other parts of education and training.

For general assessment of reform strategies aiming to improve the attractiveness of vocational education, high 'standing' should be interpreted according to the following characteristics: acquisition of key competences / combining vocational and general education; opportunity for access to academic and vocational higher education; qualification for entry to (highly) skilled employment. This set of characteristics represents an ideal-type model which is suitable for analysis and debate.

Table of contents

Acknowledgements ... 117

1. **Criteria and measures to define and evaluate the standing of vocational compared to general education** ... 117

2. **Reforms focusing on post-16 education strategies to promote parity of esteem between vocational and general education** ... 121
2.1 Purpose of the study ... 121
2.2 Parity of esteem between vocational training and general education ... 122
2.3 Institutional backgrounds for delivering secondary vocational education in Europe ... 123
2.4 Reform strategies to promote parity of esteem between general and vocational education ... 124
2.4.1 Enhancement of vocational education ... 125
2.4.2 Mutual enrichment of vocational and general education ... 130
2.4.3 Links between vocational and general education ... 131
2.4.4 Unification of vocational and general education ... 132
2.4.5 Substrategies of enhancing vocational education ... 133
2.5 Résumé ... 134

3. **Implications of unifying post-compulsory education – the British case** ... 135
3.1 Addressing parity of esteem in strategies for unification ... 135
3.1.1 The starting point of reforms ... 135
3.1.2 The rhetoric and reality of parity of esteem ... 135
3.1.3 The emphasis on core/key skills ... 136
3.1.4 The role of work-based learning ... 136
3.1.5 The concept of overarching certification ... 137
3.1.6 The flow of students into academic and vocational tracks ... 137
3.2 Tentative conclusions with regard to the issue of 'standing' ... 138

4. **Qualifications with a dual orientation towards employment and higher education** ... 138
4.1 Characteristics of dual qualifications ... 139
4.1.1 The aims of dual qualifications in the national context ... 139
4.1.2 The dimension of the schemes of dual qualification ... 140
4.1.3 The place of dual qualifications within upper secondary education ... 140
4.1.4 The type of certification awarded for dual qualifications ... 141
4.1.5 The part of dual qualifications in the process of training and employment ... 141
4.1.6 The target groups entering the schemes of dual qualification ... 141
4.2 Practical impact of dual qualifications ... 143
4.2.1 The scale of enrolment in the schemes ... 143
4.2.2 The degree of integration within the curriculum ... 144
4.2.3 The success rate of students within the scheme and in further study ... 146
4.2.4 The balance of dual orientation ... 147
4.2.5 The patterns of dual progression ... 147
4.3 The potential of dual qualifications ... 149

5. **Attitudes towards the esteem of vocational education – evidence from case studies** ... 150

6. **Conclusions about trends and prospects for improving the standing of vocational compared to general education** ... 152
6.1 Issues of 'standing' in typical settings ... 152
6.2 Improvement of 'standing' ... 155

Summary ... 156
References ... 161
Bibliography ... 163
Abbreviations ... 166

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This contribution is mainly based on the research results provided by four major partnership projects: Post-16 Strategies/ SPES-NET coordinated by the Institute for Educational Research, University of Jyväskylä, and INTEQUAL/ DUOQUAL coordinated by the Research Forum WIFO, Berlin. These projects have been carried out with the financial support of the European Commission within the framework of the Leonardo da Vinci programme. The SPES-NET and DUOQUAL projects are still running and, therefore, the final results are not available yet.

Furthermore, the contribution draws on the results of studies undertaken by individual partners involved in associated projects, in particular the UK-based project on unifying academic and vocational learning (ULP) and a parallel Leonardo project on improving the status and attractiveness of initial vocational education and training (PAVE).

The study has been prepared in close cooperation with the two partnerships involved in the multiplier-effect projects DUOQUAL and SPES-NET. The joint work of the authors has also benefited from research collaboration at the Institute for Educational Research, University of Jyväskylä, supported by a grant from the Academy of Finland. Pekka Kämäräinen (Cedefop) monitored the original projects Post-16 Strategies and INTEQUAL as part of a broader study.

Details of project references, supported by a bibliography, are attached to this contribution.

1. Criteria and measures to define and evaluate the standing of vocational compared to general education

The initial title proposed for this contribution read 'attractiveness and parity of esteem between general education and practical training'. Why was it changed to the title 'how to improve the standing of vocational compared to general education'? Two aspects of terminology gave rise to this alteration:

The terms *'attractiveness'* and *'esteem'* are related to behaviour or to attitudes held by individuals or groups. These are socio-psychological concepts which in this context, except for partial interventions, go beyond the scope of our investigation. It is more appropriate therefore to refer to the *'standing'* of vocational education, which is an objective term related to educational levels and achievements, even if complex in its social and cultural context. We can analyse essential educational aspects of the 'standing', for instance the provision and role of vocational education as a *basis* and the response of the main beneficiaries of vocational education (young people; employers) as an *effect*.

The term *'parity'* depicts an ideal as against the sober reality of 'disparity' between vocational and general education. 'Parity of esteem' is part of the political agenda of the European Union for vocational education and training (VET), while individual countries may have different terms (e.g. *Gleichwertigkeit* in Germany) or varying interest in this concept (e.g. popular in England, but of little relevance in France). Also, 'parity of esteem' may lend itself to political rather than analytical approaches. Altogether, 'parity of esteem' may be identified as a constituting rather than major concern of VET-related reforms.

The focus of analysis will be on how to assess and *improve* the standing of vocational compared to general education (the 'standing'). At the same time, the individual studies underpinning this contribution will keep their original approach and terminology.

The tension between vocational and general education has been a major issue of educational debate (Moura Castro and Oliveira 1994), with several points of departure:

Under social-political pressures there have been efforts, since the period of educational expansion in the 1960s, to provide a high level of general as well as vocational education,

allowing for a postponement of decision taking for different pathways as far as possible, to ensure the best possible preparation for a highly technological and democratic society (Husén 1989).

In face of the scientific-technological challenge and changes in work organisation, a new understanding of qualification requirements has been gaining ground since the 1980s. Not only is there a growing need for including elements of general education into vocational courses and curricula; even more important are new concepts of key qualifications or transferable skills, action-oriented learning and work-related knowledge, which bring about qualitative changes in vocational education and pose new standards for general education (see also Onstenk et al. 1999).

In addition, the demand for highly skilled labour, enforced by the decreasing demographic trend, puts pressure for reform on education systems. Vocational education has to acquire higher quality and status to combat the traditional wake of academic education. Apart from this, challenges of providing for lifelong learning (Ni Cheallaigh 1999) can only be met by closely relating the efforts in both vocational and general education across all levels of the system.

Finally, education systems, being under pressure to become more efficient and transparent, look for ways of achieving equal status of vocational and general pathways and qualifications (Manning 1992). The standing of vocational compared to general education is still an unresolved problem throughout Europe. In nearly all countries participation in post-compulsory education and training has increased. There has been a process of academic drift, that is, young people have increasingly demanded the higher-status general or academic programmes which confer positional advantage. In most countries the demand for vocational programmes, especially those which do not lead to higher education, has declined in relative and sometimes in absolute terms. Expansion and academic drift have exposed or exacerbated existing weaknesses of post-compulsory education and training.

Society has become more 'individualised': students expect a wider choice of courses and want to be able to negotiate flexible pathways through education. Economic changes have created a demand both for higher levels of attainment and for new kinds of skills, especially generic and overarching competences, and for their wide distribution across the population. The increased risk of social and economic exclusion has created new problems in respect of low-achieving students who may be marginalised by the expansion of education itself.

These trends are mediated by the specific history and institutions of each country, so that the specific problems to which they give rise may vary across countries; but they reflect global trends, creating problems and challenges for post-compulsory education and training systems. According to an international study supported by the US Department of Education (Stern, Bailey and Merritt 1996) the major response of education systems to the 'learning-intensive economy' has been to create a closer connection between vocational and academic education.

'Traditional forms of education do not provide the best preparation for this emerging economy. Vocational education has tended to become too focused on specific skills and occupations likely to change in the future. Traditional academic education by itself is also inadequate because it does not equip students to apply their abstract knowledge or to learn in the context of practical problem solving. In response to the perceived insufficiency of traditional education and training to prepare young people for more learning-intensive work, recent policies in many industrialised countries are converging on four principles:

a) new curricula should be created that integrate vocational and academic studies;

b) occupational and educational performance standards should be explicitly related to each other;

c) to prepare for learning-intensive work, initial education and training should include

a certain amount of work-based learning for all students;

d) employers and educators, including both vocational and academic educators, must share both responsibility and power in new school-to-work systems.

The first principle is the most fundamental from the perspective of US policy because it affects how the others are implemented. Work-based learning, performance standards, and school-business partnerships often occur in countries that maintain strict separation between occupational training and academic education. These practices, by themselves, will not achieve the integration of vocational and academic education now being recognised as desirable in most countries.' (Stern, Bailey et al. 1996).

A recent OECD study on the transition from initial education to working life (Durand-Drouhin 1999) has confirmed the significance of combining vocational and general education in providing flexible pathways for young people. As the comparative analysis shows, pathways preparing for both work and tertiary education, so-called 'double-qualifying' pathways, add to the attraction of vocational education.

The issue of 'standing' in Europe is addressed in different educational contexts, for instance the following: the gap perceived between general and vocational courses in Finland has lead to pilot schemes of integrating curricula within personal study programmes; the demand by young people for access to higher education in Germany puts pressure on the dual system to provide equivalent progression routes; the demand by industry for highly skilled labour in Portugal has pushed reforms which raise the standards of vocational education to allow for an equal status as against general education.

These few examples may illustrate the complexity and diversity implied in the standing of vocational compared to general education and in the ways of how to improve the 'standing'. To carry out a comparative analysis of this issue across European countries, various aspects have to be considered:

a) the level of analysis: issues of the 'standing' may be related to

   i) courses and curriculum, to
   ii) the education system or to
   iii) the labour market;

b) the criteria of the 'standing' which in this study are understood to correspond to major quality requirements of VET:

   i) the development of personal competence (in a broad sense, including vocational skills),
   ii) the chance of educational mobility and progression in lifelong learning, and
   iii) the prospects of employment, occupational mobility and career;

c) the framework or context of the 'standing':

   i) at curriculum level this may refer to the social value of vocational/ practical training as against general/ theoretical education;
   ii) at system level the choice between education pathways (vocational, technical and general education at upper secondary level) and the selection for access to higher education may condition the 'standing';
   iii) at the labour market the competition between all qualifications relevant for job entry (VET for skilled work; technical course; academic/professional studies) may be relevant for the 'standing'.

These components of a comparative approach are summed up in Figure 1.

This comparative approach serves to carry out the present investigation within and across several individual projects, i.e. it provides a framework of secondary analysis based on heterogeneous evidence. The three criteria of personal competence, educational mobility and occupational mobility underpin the assumption, stated at the beginning, that the 'standing' corresponds to the quality of VET. It should be noted, however, that the UK-based studies included in this contribution (see project references in annex) treat this re-

Figure 1: The standing of vocational compared to general education: approach to comparative analysis

Level of analysis	Criterion of 'standing'	Framework of 'standing'
1) Course/ curriculum	Development of personal competence, incl. occupational skills	Social value of vocational compared to general training
2) Education system	Chance of educational mobility and progression in lifelong learning	Choice between pathways; selection for university access
3) Labour market	Prospect of employment and occupational mobility	Competition between all qualifications at job entry

lationship with caution. They argue that attempts to promote parity by reforming the contents of vocational education may have little impact unless they can change underlying assumptions about the status imparted by social and educational backgrounds of young people (Raffe, Fairgrieve and Martin 1999).

Particular emphasis will be put on measures taken to improve – or may have the indirect effect of improving -- the quality of vocational education and/or its standing compared to general education. These range from major strategies in post-16 education to individual pilot projects of curricular innovation. To assess the impact of these measures on the 'standing', indicators may be selected which are related to the comparative framework. The indicators of 'standing' are broadly defined allowing for specification in the actual analysis. Partly, they may be applied in empirical investigation including quantitative questionnaires and statistical comparison (indicators at levels 2 and 3), and partly they may be used to interpret evidence from case studies (indicators at levels 1 and 3). The individual projects reviewed in this study relate to most of these measures and indicators, although with varying emphasis (Figure 2).

In the following sections of this study, problems of 'standing' and measures taken or expected to solve them will be analysed in different contexts. They will be addressed as issues of the 'parity of esteem' in the post-16 education strategies (Sections 2 and 3) and further considered in qualifications combining vocational and general education (Section 4). In conclusion (Section 5), evidence across these project-related results will be compiled to identify major approaches to improving the standing of vocational compared to general education.

It should be stressed that this study is designed as a secondary analysis referring to the original research carried out in a set of projects. While this approach benefits from rich input generated by large European partnerships, it also shares the limits of the projects involved. In particular, the range of countries or cases under investigation may depend on the composition of partnerships or availability of special studies rather than on systematic criteria. Indeed, the extra section on the British case is due to a special set of projects providing particular insight – any other country could have been just as significant. Furthermore, the findings available from the projects may not support all aspects of the model outlined above. Most noticeable in this respect is the focus on issues of competence/ curriculum and educational mobility rather than on occupational mobility and the labour market. The latter aspect, in fact, has gained importance in the current phase

Figure 2:
The standing of vocational compared to general education: measures and indicators

Measure expected to improve 'standing'	*Indicator of 'standing'*
Course/ curriculum (1)	
Combining vocational and general education (integrative courses/ curricula)	Integration of general and vocational subjects in the curriculum
Including key competences in the curricula: establishing new quality of VET as alternative to general education	Role of key competences in the curriculum
Education system (2)	
Regulations ensuring lateral mobility including acknowledgement of course results	Vertical and horizontal mobility of VET students
Stipulation of equivalence of upper secondary certificates with regard to HE	Access to HE for VET graduates and success in course of study
Provision of qualifications with a dual orientation towards employment and higher education	Proportion of relevant age group acquiring dual qualification
Promoting connectivity, including linkages, within upper secondary education	Mobility of students between vocational and general strands
Labour market (3)	
Cooperation between education institutions and enterprises/ organisations facilitating transfer from vocational training to the labour market	Practical assignments, apprenticeships
Provision of qualifications with a dual orientation towards employment and higher education	Employment rate of graduates; level of initial job entry of graduates

of the two multiplier-effect projects (SPES-NET and DUOQUAL). The results, however, are not yet available for the present secondary analysis.

2. Reforms focusing on post-16 education strategies to promote parity of esteem between vocational and general education

2.1 Purpose of the study

This section is based on the results of the Post-16 Strategies project (1996-97), which aimed at identifying European upper secondary education reform strategies for promoting parity of esteem between academic and vocational education, and its multiplier-effect project SPES-NET (1997-2000). The results of the former project demonstrated the policy lessons learned from eight countries through collaborative comparative analyses. The new partners of the multiplier-effect project are reflecting on and evaluating the reforms and educational strategies to improve parity of esteem articulated by the earlier project against their own national initial vocational education and training systems. The following chapter will discuss the origin of the issue of parity of esteem and introduce the reform movements of upper secondary vocational

education in 12 European countries. The fourfold typology of reform strategies revealed by the Post-16 Strategies project will be reassessed against the interim results of the SPES-NET project.

2.2 Parity of esteem between vocational training and general education

The origin of the issue of parity of esteem stems from the time when new tools turned Stone Age people into farmers and city-builders, writing and other symbol systems into priests, judges, scientists and artists. The development in human culture of inheritable, increasingly sophisticated and constantly regenerating skills achieved its full importance.

Philosophical analyses of the concept of skill as such started with Plato and Aristotle. Plato considers the problem of the cognitive content of skills: some practical skills entail counting, measuring and weighing (e.g. ship- and house building) while other skills involve working with rough-and-ready methods and a rule of thumb based on experience and drawing on professional skill that is, an intuitive skill gained through arduous practical training (e.g. medicine, agriculture, sailing, warfare). His reflections also lead Plato to distinguish between everyday skills (Gr. *tekhne*) and authentic knowledge (Gr. *episteme*), the preserve of philosophy.

Aristotle defined skill as 'an appropriate rational ability to do something'. Thus *tekhne* is linked with making things (Gr. *poiesis*), not with action where the goal is part of the act itself (Gr. *praxis*). He established a distinction between the productive skills thus defined and theoretical and practical science. However, the word technique, based on the Greek *tekhne*, and its derivatives may also be used more broadly about any action requiring 'skill' or 'mastery' even when we are talking about Aristotelian *praxis* instead of productive work (e.g. sports, dance, the skills of a circus acrobat). In such cases skill is less the productive ability to bring about particular results (e.g. the ability to make iron) than the skilful performance of the given action itself (e.g. figure skating).

Among the poetic skills, antiquity already distinguished between material skills, considered more lowly (manual and bodily skills), and symbolic skills, linked with the use of language. As encapsulated by Terentius Varro (1st century BC), the core of general studies in the medieval educational system was to consist of the system of *artes liberales*, liberal arts: grammar, dialectic, rhetoric (*trivium*) and geometry, arithmetic, astronomy and music (*quadrivium*). As heirs to the medieval faculties of arts, today's faculties of arts and sciences or faculties of liberal arts are still producing Masters of Arts.

The Latin equivalent to the Greek *tekhne* is *ars* (pl. *artes*), which became in English *art* and in Finnish *artisti*, *artisaani* and *artifakti*. Like 'art', the German *Kunst* and the Swedish *konst* mean both skill and art. In written Finnish, 'skill' (*taito*) and 'knowledge' (*tieto*) were originally, in the 16th century, nearly synonymous. Skill could refer to human mind, consciousness, soul, perception or knowledge.

The *philosophy of skills* involves a very broad range of problem areas, including among others *the theory of action, the philosophy of technology, the philosophy of art,* and *the philosophy of sport and games*. The concept of skill also features in such fields as logic and the philosophy of science (thinking skills), ethics (the skills of good life), politics (the skills of governance or of 'the possible'), the philosophy of education (the teaching of skills) and the philosophy of love (the art of love) (Niiniluoto 1992).

General and vocational education, traditionally the former representing knowledge and the latter representing skill, form two separate tracks in most European educational systems. In most cases, choosing vocational education tracks has lead to disparity of esteem concerning amount of earnings, societal status and chances of further education compared to general education. However, European educational systems vary in status regarding vocational education compared to general/academic education. Table 1 shows the percentage of students at secondary education level enrolled in vocational and general education programmes in 1995/96. The

age of secondary education students varies from 14 to 19 years depending on the country.

Austria, Hungary, Germany and the Netherlands have strong vocational education programmes which attract a large proportion of youngsters. However, chances for flexible access to higher education vary between countries. Austria and the Netherlands have created several progression paths from vocational tracks to further studies, with Germany and Hungary following this line. Other countries such as Greece, Spain, England, Portugal and Estonia have less developed and weak vocational education systems which is reflected in enrolment numbers. The employers complain about mismatch between education and job requirements. At the individual level, insufficient training may lead to underemployment, unemployment or displacement.

Table 1: Proportion of students in vocational and in general programmes within secondary education in European countries in 1995/96 (%)

Country	Vocational programmes	General education programmes
Austria	81	19
Hungary	73	27
Germany	72	28
The Netherlands	70	30
Belgium	61	39
Norway	58	42
Denmark	57	43
France	54	46
Sweden	52	48
Finland	52	48
Greece	47	53
Spain	39	61
Great Britain	31	69
Portugal	29	71
Estonia	26	74

Sources: European Commission, 2000; (Estonia/ Hungary:) European Training Foundation 1998.

2.3 Institutional backgrounds for delivering secondary vocational education in Europe

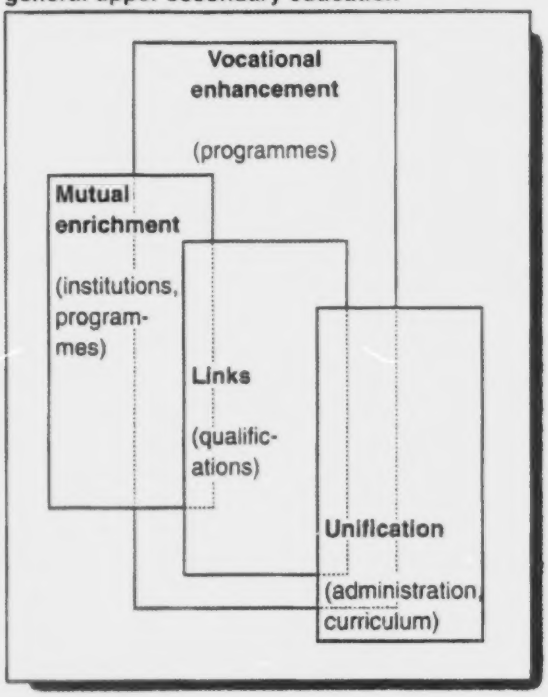
Eight countries (Austria, England, Finland, France, Germany, Norway, Scotland and Sweden) were included in the work of completing the Post-16 Strategies project. Sweden dropped out and five new countries (Belgium, Estonia, Greece, Hungary and Spain) joined the SPES-NET project. These 12 educational systems have different institutional compositions to deliver secondary-level vocational education. The length of secondary education and students' ages vary among the countries. Table 2 shows secondary students' typical age

Table 2: Students' typical age and length of studies at secondary-level education in European countries

Country	Vocational programmes (age/ length of studies)		General education programmes (age/ length of studies)	
Austria	14-18	(4 yrs)	14/15-17/18/19	(1-4 yrs)
Belgium	14-18	(4 yrs)	14-18/19	(4-5 yrs)
Denmark	16-18/19	(2-3 yrs)	16-19	(3 yrs)
Finland	16-19	(3 yrs)	16-18/19	(2-3 yrs)
France	15-18	(3 yrs)	15-17/19	(2-4 yrs)
Germany	16-19	(3 yrs)	15/16-18/19	(1-3 yrs)
Great Britain	14-16/18	(2-4 yrs)	16-17/18	(1-2 yrs)
Greece	15-18	(3 yrs)	15-17/18	(2-3 yrs)
The Netherlands	15/16-17/18	(2-4 yrs)	15/16-17/18/21	(2-6 yrs)
Norway	16-19	(3-4 yrs)	16-19	(3-4 yrs)
Portugal	15-18	(3 yrs)	15-18	(3 yrs)
Spain	16-18	(2 yrs)	16-18	(1-2 yrs)
Sweden	16-19	(3 yrs)	16-19	(3 yrs)

Sources: Eurydice 1997.

Figure 3: The reform strategies of promoting parity of esteem between vocational and general upper secondary education



starting and finishing school and the length of studies in both vocational and general education programmes. Evidence shows that in most countries vocational programmes are comparable with general education programmes in terms of length. Youngsters are about 18 years old when entering the workforce or higher education.

2.4 Reform strategies to promote parity of esteem between general and vocational education

The Post-16 Strategies project identified four reform strategies in eight upper secondary education systems for promoting parity of esteem between vocational and general education. These were vocational enhancement, mutual enrichment, links and unification. The inclusion of more countries in the SPES-NET project has led to further differentiation within and between categories of reform. Below, the major strategies are briefly described, with the countries being grouped according to their primary reform characteristics (while also relating to features of other strategies).

- *Vocational enhancement*. The strategy of vocational enhancement emphasises the distinctive nature of vocational education on the basis of its characteristic content and links between employers and the providers of vocational education. Systems with either a high or a low status of vocational education are likely to generate different vocational enhancement strategies. In some countries, esteem for vocational education is linked with the high standard of the content and pedagogy offered in vocational education and training; the reforms promote access to higher education through vocational education and training (*Austria, Denmark, Germany*). Other countries attempt to enhance vocational education starting out from traditions of low status (*Greece, Spain*). A further group of countries is characterised by a transition process, with a vocational training system developed under a planned economy being reoriented towards a market economy (*Estonia, Hungary*). However, the Belgium, Greek, Estonian and Hungarian partners of the SPES-NET project do not categorise their upper secondary education system in any of the four strategies identified in the Post-16 Strategies project (Stenström and Lasonen 2000).

- *Mutual enrichment*. Vocational education institutions, enterprises and academic upper secondary schools cooperate with the aim of giving students a broader range of choices and offering them stimulating learning methods and environments. This strategy brings together the different types of schools by encouraging cooperation while simultaneously preserving their distinctive character. The strategy involves increasing student choice beyond the boundaries separating vocational and general upper secondary schools in the localities. The characteristic of the reform is to facilitate cooperation between vocational and general upper secondary schools (*Finland*). In addition to focusing on collaboration between different educational establishments, the reform has extended collaboration between schools and enterprises. The vocational education programmes have been reformed through enhancing occupa-

130

tional aspects by adding a six-month to two-year period of authentic work experience (Finland, Norway). Cooperation with working life will influence not only the contents of different subjects but also school culture as a whole. The traditions of enterprises may thus fundamentally change school traditions.

- *Links*. Countries representing the linkage strategy have made vocational and general education more formally equal by linking both to a common qualification structure. Vocational and general education programmes and qualifications have been made formally more equal by linking them both to a common qualification structure. Vocational and general education is assumed to gain the same formal status through the measures of common certification frameworks and recognition. Educational systems which have traditionally fostered elitism by emphasising academic studies for the few, now have attempted to make vocational education more attractive (*England, France*).

- *Unification*. Under the unification strategy, vocational and general education are merged into one another to create a single post-16 education system. It is believed that requiring all students to study certain common general subjects will provide them with equal opportunities to engage in further studies, a factor that determines the attractiveness of different qualifications. There are several types of unification strategy. The comparisons demonstrated different dimensions of unified strategy: uniformity of treatment and outcomes of students, of providing choice among a flexible range of opportunities and unifying educational administration (*Scotland, Sweden*).

When reviewing the strategies, it is important to distinguish between the overall goal of *vocational enhancement* shared by all of the strategies analysed and the specific strategy described as *vocational enhancement*. All four strategies including those promoting links or mutual enrichment or the abolition of academic/vocational divisions contribute to vocational enhancement in the broader sense. The original categories of the four reform strategies may be seen as means of enhancing vocational education programmes (see Figure 3). The additional substrategies are:

a) promoting links with higher education;
b) enhancing links with employers;
c) raising the status and qualifications of VET teachers and trainers, and
d) improving the VET curriculum (see Table 3).

The impact of these substrategies is related to different national contexts of VET systems.

2.4.1 Enhancement of vocational education

2.4.1.1 Enhancement of high-status vocational education

Austria

In Austria, there are four main tracks through upper-secondary education: academic schools, higher vocational colleges, intermediate vocational colleges and the dual system. Students can start in vocational training programmes from the age of 14. They have to decide at this age whether they want academic or vocational education and which future occupations they will choose. In the dual system, vocational education and training for apprentices takes place in training companies (80% of the total training time) and in schools (20%).

Current reforms focus on vocational highers (*Berufsmatura/Fachmatura*), that enable apprentices to gain a certificate of general upper-secondary education at the same time as they complete their apprenticeship training or after they have finished it, and the establishment of polytechnics (*Fachhochschulen*). The curriculum is being broadened, updated, and extended to new occupational fields. New qualifications arrangements will give all vocational students, including those in the dual system, the opportunity to qualify for higher education. *Fachhochschulen* (vocational higher education institutions) were introduced in the early 1990s. These are gradu-

Table 3: European upper secondary education reforms as concluded in the results of the Post-16 Strategies and SPES-NET projects

Post-16 Strategies / Sub-strategies	Vocational enhancement	Mutual enrichment	Links	Unification
Links with higher education (HE)	Reforming and expanding vocational HE	1.Improving access to existing HE 2.Creating new vocational HE system		Creating a single system of post-compulsory education
Links with employers	Strengthening dual-system partnerships	Strengthening partnerships between providers of VET and employers		Strengthening links between employers and VET and general education teachers
Status and qualifications of vocational teachers and trainers	Equalising the status of vocational and general education teachers	Providing some common courses for VET and general education teachers		Common training and degrees for general education and vocational teachers
Improving the VET curriculum	Improving vocational education knowledge	More general education on vocational programmes		More integrated learning

Source: Young 2000.

ally being expanded to provide a progression route for vocational students. The advantages of the dual system are the early integration of students into working life, the prevention of unemployment and exclusion among young people and the low cost of firm-specific initial training.

The reforms of the Austrian vocational education system in the 1990s have been nationwide. The aim has been both to make those completing apprenticeship training more eligible for higher education and to facilitate transition from vocational education to skilled work. Some 70% of Austrian young people acquire a vocational qualification, and some 15% of them complement it by also taking the matriculation examination (IBE 1999). In terms of enrolment rates, vocational education based on apprenticeship training is the most popular option, chosen by some 36% of the age cohort as their route to vocational qualification.

Denmark

Upper secondary education in Denmark can be divided into general upper secondary education (three years between ages 16 and 19) and vocational upper secondary education (up to four years between ages 16 and 20). Initial vocational training is provided in three main

forms following the completion of lower secondary education: basic vocational education and training, higher commercial courses and higher technical courses. This type of education attracts two thirds of a typical age group. Theoretical education is given at school, alternating with practical training in a firm.

The principal feature of Danish vocational education and training policy is that vocational education has the character of broad youth education, and youth training programmes should provide opportunities for continued training. The Danish vocational education system includes school-based and apprenticeship-based alternatives. In the beginning of the 1990s, the two parallel models for initial vocational education and training were merged into one basic model providing a unified curricular framework both for trainees with an apprenticeship and for students in vocational schools. In study programmes, a sixth of the total teaching time is devoted to optional subjects, about two thirds to practical training in firms. A major characteristic in Danish vocational education is the central role of social partners (employers and organised labour). The social partners are responsible for modernising training schemes and for delivering the practical work experience component of vocational programmes and exert considerable influence on their school-based components.

Recent government reports have indicated that, although the standard of the education system is of high quality in international comparisons, there are some malfunctions including the participation in VET programmes, the quality of student performance, the rate of students completing youth education and the efficiency of the VET system. In 1998, general agreement with the parliament and social partners was reached for setting up a new legislative framework of the future VET system in Denmark. The focus of *the Reform 2000* is to create a more flexible, efficient and student-centred system of youth education, with educational provision leading to recognised qualifications, including 'double' qualifications, and special attention being paid to the needs of low-achievers to persuade them to stay in education.

Germany

General and vocational education are still clearly separated in the German education system, with young people choosing relatively early whether they will go on to vocational or university education. The German dual system, which combines apprenticeship training with education at vocational schools has come under double pressure facing an increasing demand by young people for upper general education (*Gymnasium / Abitur*) and a decreasing supply of apprenticeship placements by enterprises. These trends reveal functional weaknesses notwithstanding the high standards and qualification achievements of the dual system (Tessaring 1993). In response to these problems, efforts have been made to improve the attractiveness of vocational education and to achieve its equal status compared to general education. Pilot projects have been initiated to explore new ways of bridging the gap between vocational and general education, with a few German *Länder* introducing partial reforms in this direction.

One example taken up in Post-16 Strategies is the *Schwarze Pumpe* project in Brandenburg which focused on bottom-up, process-oriented reforms within the dual system. The project aimed at modernising the curriculum and pedagogy to take account of changes in society and the workplace and to integrate general and vocational education. The idea of intellectual emancipation in vocational instruction is included in integrative learning. It is vital to ask what is educational in vocational learning. Being qualified to enter higher education, being 'qualified to study', can be definable in terms of concrete competence. Employees must master both the vocational and academic components of their jobs and be able to shape work processes and technology. The *Schwarze Pumpe* project has sought to develop closer collaborative links between vocational schools and enterprises participating in the dual system, and to qualify young people for higher education as well as for employment as an outcome of vocational training. *Oberstufenzentren* (tertiary colleges or upper secondary education centres), that bring together all types of German upper sec-

ondary education, were established throughout Brandenburg in 1991.

The *Schwarze Pumpe* project is of course but one example of numerous initiatives taken in Germany towards VET enhancement. Since the mid-1980s, reformed training occupations have aimed at vocational competence to plan, perform and control one's work. And in recent years, new training occupations were established for new jobs, to respond quickly to emerging needs of the labour market.

2.4.1.2 Enhancement of low-status vocational education

Greece

The majority of Greek upper secondary school graduates and their parents pursue a university degree. Vocational/technical education is not thought to satisfy aspirations. VET is considered to serve those who fail in the school system. As a result there are more university graduates than the labour market demands. The rate of unemployment is steadily increasing, and a phenomenon of multi-employment is frequent. A large number of university graduates have other jobs than those they were educated for (Patiniotis and Spiliopoulou 1999).

Traditionally the Greek education system has not offered alternatives to follow vocational pathways. As a result, most professions are learnt on the job. The 1997 education law introduced the comprehensive *lykeion* that will abolish and replace all previous types of *lykeia*. It offers three fields of specialisation: theoretical subjects (humanities, social sciences and languages), positive sciences (mathematics and natural sciences) and technological sciences. Chances of optional subjects for students were increased and a programme for students with special needs was created. The new Act on Secondary-Level Technical and Vocational Education, introduced in 1998, allows to develop the complete system of technical and vocational education (TVE) within the framework of Greek secondary education. Students who have completed nine-year compulsory education can choose either the comprehensive form of general education (the comprehensive *lykeion*) leading to academic studies, or the reformed and flexible form of TVE (technical and vocational institutes) which qualifies them for entry into working life.

The new institutional context is aimed at developing knowledge, critical ability and various skills to access flexibly to working life, and at providing a horizontal link to the comprehensive *lykeion* to offer continuous opportunities for growth of vocational and general knowledge and understanding. Acquisition of vocational skills through and at work is also emphasised. However, the conditions for implementing workplace-based learning still have to be provided.

Spain

The main foci of Spanish reforms over the last decade have been

a) to ensure that coherent compulsory education is available to all up to the age of 16;

b) to rationalise and upgrade the system of post-compulsory vocational education and training into one system with a number of progression routes for those studying vocational courses who wish to continue into higher education as well as for those seeking employment;

c) to diversify the baccalaureate so that some routes within the baccalaureate system can lead to employment as well as to higher education.

The rationalisation of the previously diverse and fragmented VET provision in Spain is being attempted through establishing a single system of vocational qualifications with several pathways. However, the old divisions between formal (or regulated) and non-formal (non-regulated) vocational education remain. The Spanish reforms can be seen, therefore, as a clear example of a *vocational enhancement* strategy or trying to 'improve the vocational track from within'. Parallel with these reforms of the system of vocational education, there are moves to diversify provision of general education so that students completing

13H

baccalaureates can either progress to university or become qualified or semi-qualified workers at 18. The Spanish reforms appear to give emphasis to the employment prospects of academic (baccalaureate) students. Thus, those completing a baccalaureate who do not gain access to (or do not wish to proceed to) university can move to the higher-level formative cycle and go into employment as technicians. It is also possible for students who complete the intermediate formative cycle within the system of vocational education to join the baccalaureate route at 16+. The renewed emphasis on education/business partnerships, the importance of students gaining work experience while still at school and the government's efforts to extend the involvement in education of employers and trade unions could all bring the general and vocational education systems closer together.

2.4.1.3 Enhancement of vocational education in transition

Estonia and Hungary

Until the 1980s, in Estonia and Hungary the nature and forms of vocational education and training were determined by both ministries and big State-owned companies. They defined curricula and implemented vocational education programmes. Vocational schools were often part of the training system of these big companies, used to recruit and train their own workforce. Therefore, vocational education and training was characterised by a very high degree of specialisation and precisely defined vocational profiles for occupations within the big companies and the bureaucracy. This meant on the one hand that there was a long list of different vocations in the different countries. On the other hand there was a lack of well-defined job descriptions because the demand for vocational qualifications was politically controlled. Mobility and flexibility of workers were excluded both from vocational education and from economic policy.

After the political changes around 1990, one of the primary goals of educational policy was preventing the vocational education and training systems from collapsing. Apart from short-term crisis management, legal, financial and organisational conditions had to be created for ensuring the efficient operation of a market economy through provision of qualified labour. After the change of 1989/90, three different strategies for reforming vocational education and training systems could be observed:

a) reactivating traditional occupations (mostly skilled trades) from the pre-communist era, with the main attention focused on practical skills;

b) retaining some aspects of communist-era vocational education systems, that is, the possibility of entering post-secondary education with vocational qualifications;

c) while adopting a school-based model, vocational training has been integrated into it by different methods of practical training, such as simulation or authentic work experience in companies.

Estonia and Hungary were confronted with similar problems. The development of what are known as key qualifications (such as teamwork skills, creativity or responsibility) takes time. As a consequence, at least during the first years after the change, foreign investors brought their own management staff to these countries. There are still many problems concerning the infrastructure of vocational education and training, especially in Estonia.

The systematic change in vocational education and training has led to growing higher education enrolment. The reasons are, in general, better labour market opportunities for well-educated people (i.e. higher wages, lower unemployment rates, especially for young people with a tertiary degree) and also the fact that young people often enter higher education because of being otherwise unemployed. Unemployment is a big problem among young people without higher education, older people with low or obsolete vocational qualifications, handicapped people and ethnic minorities.

The recent difficulties encountered by vocational education and training systems are similar within Estonia and Hungary, and EU

member countries to varying extents. Vocational education and training has to be adapted to labour market needs, especially to new qualification requirements and new occupations. At the same time, practically-oriented curricula have to be introduced in addition to providing a general education. This is accompanied by a development of new learning methods and the improvement of teacher education. The modernisation of educational institutions is a basic requirement of the 'new' infrastructure of vocational education and training. The adaptation to labour market needs will also concern the mechanisms of evaluation and certification used in vocational education to increase flexibility and encourage self-employment.

2.4.2 Mutual enrichment of vocational and general education

The aim of the reforms of vocational education undertaken in the 1990s in the Nordic countries, to which Finland and Norway belong, has been to increase equality among citizens by guaranteeing everyone a study place, raising the esteem of vocational education and increasing flexibility and student choice, seen as a way to enhance student motivation. All these countries have integrated vocational education into their educational system. The main purpose has been to modernise secondary education. A further purpose of the reforms has been to give vocational students academic competencies (and to some degree also to give academic students vocational competencies) and thus improve their chances of progressing in their studies and of launching successful working careers. The reforms have also been meant to be a response to the changing demands of working life and society.

Finland

Over 90% of those leaving nine-year comprehensive school continue their studies at general upper secondary school or at a vocational institution. The network of general and vocational upper secondary schools covers the entire country. In Finland, vocational education is mainly school-based, even if it has been decided to increase the proportion of apprenticeship training to 10% of the age cohort by the year 2001. Apprenticeship training has increased among adults but not among under-20-year-olds to the extent as expected. Therefore, another measure intended to improve the connections between school-based education and working life is a stipulation that all secondary-level vocational education should include a minimum of half a year's practical training at the workplace.

Upper secondary education in Finland is divided in two pathways: three-year general upper secondary education (catering for 16-19 year-olds, leading to the matriculation examination) and two- to three-year vocational education. By the year 2001, all vocational education will comprise three-year programmes and include a minimum of half a year's practical training at the workplace.

Mutual enrichment refers to combining studies at both the general upper secondary school and the vocational school in a single examination and also to taking the matriculation examination alongside a vocational qualification, even if this is not very common because of the great demands it sets on the student. In 1992, experimental reforms were started in 16 local networks of schools. Each network comprises both types of schools and collaborates in joint scheduling and the cooperative provision of programmes. Students are encouraged to select a proportion of their programmes from other schools in the network, thus bridging the academic/vocational divide.

In Finland the extended student choice introduced into the curricula increases vocational students' opportunities to gain access to higher education and to include more theoretical subjects in their study programmes while allowing academic students to study vocational subjects together with their primarily academic studies, thus adding practical skills to their study programmes. Vocational and academic programmes are acknowledged as equivalent and students are credited for parallel or earlier studies in other upper secondary education institutions.

Finland is also increasing its provision of apprenticeship training based on an apprenticeship contract between a student and an em-

ployer. Apprentices receive their practical training at the workplace and their theoretical education in a vocational school during course periods (on average 25% of the teaching time). The length of apprenticeship training is two to four years. Apprentices are paid a regular trainee's wage. In the new law, apprenticeship training will be linked with vocational schools. After completing their training apprentices will take a vocational examination and a skills test.

Higher vocational education was introduced in 1992, when AMK institutions, a Finnish equivalent to the polytechnic, were established. They are based on the matriculation examination or three years of vocational education and offer programmes lasting three and a half years. AMK institutions represent the non-university sector of higher education and differ from universities in being more practically oriented and training experts for the new labour market. About 35-45% of the age group will receive polytechnic education and about 20% university education. This is because the changes that have taken place in Finnish business life have meant that the demand on the labour market concentrates much more on high-tech professions.

Norway

The Norwegian Reform 94 brought general and vocational upper-secondary schools together in new combined (or comprehensive) schools increasing the general education component of vocational courses. It rationalised first-year courses, and remedied the shortage of places on second- and third-year courses. It made the pathways through the system more flexible, by broadening the second-year options available to students completing a given first-year course, and likewise in the third year. It introduced a '2+' model for vocational courses, which allowed students after two years of school-based study to choose between a further year of training or two years of training combined with productive work. It developed new pathways from vocational education to higher education.

Upper secondary education, which follows nine-year comprehensive school, is organised as a single type of school, the upper secondary school. In this sense the school systems of Norway and Sweden are alike and differ from those of Denmark and Finland, where there are separate schools for general upper secondary education and vocational education, even if it is possible to select studies from both kinds of school.

In Norway, upper secondary school lasts three years and is divided into 10 study fields consisting of a general studies programme and nine vocational programmes. About 45% of 16-year-olds enrol in the general studies programme. All study fields have the same basic structure: a foundation course (one to two years), advanced courses (one to two years) and shorter courses. The two-year foundation course combines general and vocational subjects and enables students to choose either an academic or a vocational track after the foundation course has been completed. The apprenticeship training system is based on close cooperation between school and working life and on a combination of school-based training and practical apprenticeship. It is also possible to attend an apprenticeship school one day a week and receive workplace training four days a week.

In higher education there are two main sectors: the university and the college sectors. Non-university institutions of higher education offer programmes lasting one to four years. Longer courses and graduate programmes of up to six years have also been introduced in some of the institutions. Most programmes are oriented towards specific professions such as pre-school teaching and compulsory school teaching, engineering, social work, administration, automatic data processing, health professions, etc.

2.4.3 Links between vocational and general education

England and Wales

As a background for reforms, political and economic factors since the 1980s have included increasing unemployment and the collapse of the youth labour market. Academic and vocational education is in a dual crisis.

The academic route or A levels caters for a minority, includes premature specialisation and creates negative attitudes towards vocational alternatives. Vocational education has attracted a minority of the cohort, mostly at lower qualification levels, and has poor completion rates. A bias towards lower-achieving students means that the vocational route is invariably seen as an option of secondary choice. By the mid-1990s, vocational education in England and Wales consisted of two tracks: broad vocational courses (increasingly GNVQs) and occupationally-focused courses (NVQs). The vocational curriculum is split between three traditions: a weak technical tradition, a pre-vocational tradition (GNVQs) and a narrow competence-based and occupationally-focused approach to work-based learning (NVQs). The 'Dearing review of 16-19 qualifications' proposed reforms to clarify the purposes, reduce the overlap and enhance the distinctiveness of each of the three 'pathways' (academic, applied and vocational). Its declared aim was to improve the parity of esteem between academic and vocational qualifications at upper secondary level.

The Dearing review proposed a number of measures to link or bridge the pathways, including common nomenclature, levels and quality assurance procedures for the three pathways, overarching diplomas, a restructuring of courses into smaller units or groups of units to promote mixing and transfer between pathways, the promotion of key (core) skills across all three pathways, and the merger of the main bodies regulating the different pathways.

The changes introduced in the ensuing reform, especially measures intended to move GNVQs and A levels closer together, helped consolidate vocational qualifications and establish vocationally-oriented components of learning and achievement. Thereby, progress was made in the direction of attaining parity of esteem, with more students combining vocational and academic study programmes (Hillier and Oates 1998). The Labour government elected in 1997 has expressed broad support for the Dearing recommendations, while preparing to consult on the specific next steps.

France

In 1985, France introduced the *Baccalaureat professionnel* (Bac Pro), a vocational Bac alongside the existing general and technological Bacs, with substantial common content. In 1993, there were 35 different Bac Pros. They are designed primarily for students who embarked on lower-level (CAP/BEP) vocational courses at 15, and thus extends the progression opportunities in vocational education. It also confers entitlement to higher education, although a majority of its graduates enter the labour market. The Bac Pro programmes are the least favourable among students compared to the two other Bacs. In 1995, the Bacs were reformed to promote flexibility, cater for the greater diversity of students and reduce the hierarchy among them. The programmes leading to Bac Pro are based on the cross-fertilisation of experiences from school-based and work-based vocational education and training. French pedagogic research (*raison graphique*) involves a comparative approach whose aim is to capture the various learning and teaching styles for languages to be found in upper secondary vocational schools. Identifying the cognitive processes forming a vocational level of understanding leads to an improved esteem of vocational education and training. This concept of promoting parity of esteem is similar to the German approach.

In the English and Welsh case, the main aim is to raise the quality of post-compulsory participation and qualification outcomes by strengthening vocational education and vocational progression paths to higher education and creating broader links between academic and vocational learning. This has also been the case in France, but the strategy applied there is clearer and more advanced, involving 80% of young people attaining the baccalaureate level, but only partly through the vocational route.

2.4.4 Unification of vocational and general education

Scotland

There are three types of post-16 courses and diplomas available in Scotland. Two kinds of

courses qualify young people for university studies. Highers and Certificates of Sixth Year Studies (CSYS). Both are single-subject courses. Highers are available in S5 and S6 or further education colleges. CSYS are available in S6 for students who have a Higher in a subject and need further preparation for university study. General vocational courses, available in school or in further education colleges, lead either to National Certificate (NC) or General Scottish Vocational Qualifications (GSVQs). NC modules are a national framework of some 2000 outcome-based modules, while each GSVQ covers a broad occupational area and has a substantial general education component. School students have tended to 'pick and mix' NC modules in combination with academic courses. Full-time further education students usually follow ready-made programmes of modules.

In 1999, a 'unified curriculum and assessment system' will replace nearly all provisions for adults and young people beyond 16 years, except for higher education and work-based training. It will incorporate general (academic) and vocational courses in a single framework of 40-hour units, usually grouped into 160-hour courses, available at five levels. The system is designed to have flexible entry and exit points. Most students will have a relatively free choice of courses, although they may choose to take combinations of subjects which lead to specified group awards. Common principles of curriculum design, assessment and certification will apply throughout the system. Failure to incorporate work-based provision is possibly one of the main limitations of the *Higher still* reform. The unified system will remain based on full-time delivery in schools and colleges, with very little scope for alternance or for input from the workplace.

Sweden

In Sweden, where an earlier reform had established integrated upper-secondary schools, reforms in 1994 replaced the previous structure of general and vocational programmes of varying length, with a system based on 16 national three-year programmes. Two programmes (natural and social sciences) focus on university entry; the other 14 are more vocationally oriented but also give access, at least in principle, to higher education. For these programmes at least 15% of study time is provided in the workplace. There is substantial common content, and all programmes include the same eight core courses or modules; the system is intended to facilitate transfer between programmes or from an 'individual' (self-chosen) programme to a national one. All young people up to 20 years have an entitlement to education within the system. The reform has also decentralised education and increased the autonomy of localities and institutions.

Over 95% of compulsory school leavers continue their studies at upper secondary level. Most upper secondary studies take place in schools under municipal responsibility. Studies in agriculture, forestry, horticulture and certain caring occupations are delivered in schools run by county administrative boards.

Sweden also has apprenticeship training programmes, which combine vocational training organised by employers with education at upper secondary school.

2.4.5 Substrategies for enhancing vocational education

Considering the current trend towards a closer relationship between education and employment policies and given that the four previous hypothetical strategies did not include all countries, four substrategies were identified by the partnership of the SPES-NET project (Stenström and Lasonen 2000). These are aimed at improving upper secondary vocational education:

a) promoting links with higher education (e.g. expansion and creation of a new vocational higher education or a single system of post-compulsory education);

b) enhancing links with employers (e.g. strengthening dual system partnerships or partnerships between providers of VET and employers, or strengthening links between employers and VET and general education teachers);

c) raising the status and qualifications of VET teachers and trainers (e.g. establishing parity of status and providing some common courses or common training and degrees for VET and general education teachers);

d) improving the VET curriculum (e.g. improving vocational education knowledge or integrating vocational and general learning).

Furthermore, four common trends were found:

a) more standardisation of qualifications for students and teachers;

b) a greater emphasis on work-based learning and the educational potential of workplaces,

c) efforts to increase employer involvement in all aspects of VET provision, and

d) more choices for students and more autonomy for local authorities and individual institutions.

2.5 Résumé

Each country's reform programme might include elements of different strategies, and the emphasis of a country's policy could change over time. The four strategies represent a continuum between strategies based on the distinctiveness of academic and vocational education and those based on their full integration, with links and mutual enrichment as intermediate strategies between the two poles. Each of the partner countries have key system issues which the reforms are seeking to resolve.

Those systems that want to move in a more unified direction and at the same time have high degrees of student choice may also be encouraging academic drift or reflecting more basic social divisions between academic and vocational orientations because of the way in which prevailing values and cultures impinge upon student choices. This could be countered by very strong and supportive messages coming from the labour market concerning the acquisition of certain types of vocational qualifications.

However, in the absence of this or of divisions of opinion amongst employers, the answer may be more prescription and rules of combination provided by qualification authorities, both to protect the integrity of the vocational route and to encourage students to be more radical in the ways in which they combine studies.

All of the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for *qualitative* changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, new technology, patterns of occupational mobility and the pace of change itself are seen to require increased adaptability, capacity to learn new skills in the future, personal and transferable skills, and so on.

Most of the reforms seek to enhance links between VET and the labour market, and to make VET more responsive to labour-market needs. This is pursued through networking with local enterprises, through the formal representation of industry in the machinery for designing curricula and qualifications, and in some systems by allowing greater responsiveness to local needs. In most countries, therefore, we can identify an attempt to increase the influence of the labour market *within* the reforms.

However, this is not the same as a labour-market influence *on* the reforms themselves. In most of the countries studied the main impetus to reform appears to be, not pressure from the labour market, but internal pressures arising from the need to rationalise the education system itself. This is most obvious in Austria and Germany. The reforms in Norway, Scotland and Sweden aim to simplify their systems and make them more coherent through unifying or comprehensive reforms. The reforms in England, Finland and France pursue rationalisation through links of various kinds rather than unification. We assume that VET systems' responses to labour-mar-

140

ket changes depend on whether and how these changes coincide with problems internal to VET itself.

3. Implications of unifying post-compulsory education – the British case

A comparative study on unifying post-compulsory education in England, Wales and Scotland (Unified Learning Project – ULP, see project references) throws further light on the issue of parity of esteem. The focus of this project is on attempts in these countries to reduce divisions between academic and vocational tracks and to develop a more coherent system. In addition, a critical assessment of the 'parity of esteem' debate in England (Hillier and Oates 1998) illuminates the rhetoric and reality of this concept. A further comparative study on flows and pathways in post-compulsory education and training (home internationals project, see project references) provides empirical evidence on the destination of students of academic and vocational tracks in England, Scotland and Wales against the background of educational attainment and social class.

Due to the specific objectives and approaches in these two projects, the question of how to improve the standing of vocational education compared to general education is only included by implication. The issue of parity of esteem is related to the relative social status of entrants to vocational and academic tracks rather than to the quality of educational provision. The following review of the projects therefore intends to filter the outcome from the point of view of 'standing'. First, the relevant evidence of the project results is set out according to selected aspects (summarising text from the quoted project reports and additional sources); second, tentative conclusions are drawn from the evidence with regard to the issue of 'standing'.

3.1 Addressing parity of esteem in strategies for unification

In the above-mentioned analyses of developments in post-compulsory education in Britain, the issue of parity of esteem is addressed in the following context: the starting point of reforms, the rhetoric and reality of parity of esteem, the emphasis on core/key skills, the role of work-based learning, the concept of overarching certification, and the flow of students into academic and vocational tracks.

3.1.1 The starting point of reforms

The policy agendas which have driven recent changes towards unifying post-compulsory education in England, Wales and Scotland, focus on the need to promote employability and to combat social exclusion. The unification strategies are related to the dimensions of government and regulation, and of certification; the reforms are qualifications-led. This distinguishes Britain from other European countries where post-16 strategies put more emphasis on the dimensions of content and process and on institutional reform.

The comparative analysis (ULP) sets out major challenges for unification strategies in Britain, including the need to respond to the wider range of aspirations of students in a high participation system; the demand for higher levels of attainment and new kinds of skills and knowledge; the pressure for greater coherence, tranparency and responsiveness; the need for greater social inclusiveness and the need for parity of esteem of academic and vocational learning.

3.1.2 The rhetoric and reality of parity of esteem

As argued by Hillier and Oates (1998), parity of esteem in the mid-1990s became a rallying cry and overriding policy objective, while little attention was paid to its aims and meaning. The uncritical pursuit of parity of esteem might have undesirable consequences, in particular, an introduction of 'sameness' in currently diverse qualifications, leading to a qualifications system failing to meet the needs of diverse learner groups. That GNVQs must achieve parity of esteem with A levels has been repeated as a priority by policy-makers and practitioners, with little attention being paid to why parity of esteem is desirable, what it involves and how it can be measured.

A key point is that parity of esteem issues reflect deeper social patterns of distribution of value and opportunity. Poor parity of esteem is not solely a reflection in ideology of deeper inequalities, it sustains and propagates these differences through mechanisms such as career advisers and teachers recommending certain qualifications for lower ability groups and others for higher ability groups; candidates attaching lower status to certain qualifications and thus being attracted more to other qualifications; selectors placing a premium on certain qualifications; and certain qualifications being treated preferentially in funding and approval listings. This gives the issue of parity of esteem the janus-headed quality of being both an effect and a cause – a reflection of past and current inequalities and the support of mechanisms which cause these inequalities to persist in areas such as earnings potential. As Robinson (1997) revealed in a study on earnings and qualifications, there is no parity of esteem between academic and vocational qualifications in the labour market. The notional equivalences established by qualification structures contrast with the disparity in levels of earning: academic qualifications tend to offer access to more highly paid occupations, and often pay a higher wage within some of those occupations, than their formally equivalent vocational counterparts. This experience again influences the decisions taken by young people in their choice of pathways.

Practical measures are essential for improving the parity of esteem, for instance changes for advanced GNVQs to allow programmes combining vocational and academic qualifications to be delivered in schools and colleges. The success of GNVQs post-16 (with participation moving from an initial 10 000 in 1993 to 240 000 in 1996) has contributed to underpinning the role of vocational provision alongside academic provision. The sustained success of GNVQ candidates in applications for HE has consolidated the currency of vocational qualifications. In addition, the proposal to implement across the whole education and training system key skills – developed principally in vocational qualifications – further established the importance of vocationally-oriented components of learning and achievement. Recently GNVQs and A levels have been moving closer together (in terms of unit structure, assessment and grading), thereby encouraging more students to combine vocational and academic qualifications in their study programmes.

3.1.3 The emphasis on core/key skills

The national policies in England, Wales and Scotland place great importance on the development of core/key skills. In this respect, the reforms respond to both external demands, especially from industry, and to internal problems of the education and training systems. Core/key skills may play a unifying role for general and vocational learning in several respects: they may comprise a component of the curriculum of all learners; their purposes may relate both to employment and to higher education; and they may prefigure the more process-oriented concepts of learning which could characterise a unified curriculum of the future.

The unifying effect which core/key skills may have, however, is dependent on the education context. In the Scottish approach, core skills are incorporated into the design of units or courses wherever the subject-matter and assessment arrangements make this appropriate, i.e. they are developed as part of an integrated curriculum. In England on the other hand, except for the design of GNVQs, key skills add a common element to programmes with different content, pedagogy and assessment approaches, i.e. they are additional rather than integrated in the curriculum.

3.1.4 The role of work-based learning

In all three systems unifying strategies have centred on school/college-based provision, while work-based provision such as apprenticeships and youth training programmes have not been incorporated. Several reasons for the marginal role of work-based learning are identified: the dominance given by young people to the full-time route; the institutional complexity and fragmented nature of work-based training; the competence-based approach of national/Scottish vocational quali-

1H2

fications which sets them apart from qualifications in the full-time system.

Indeed, both in England and Scotland there is a widespread view that work-based provision needs to be kept distinct if it is to retain its character and function. In this way it would safeguard the delivery of occupational competence, maintain industry ownership and avoid domination by educational interest. The introduction of modern apprenticeships and national traineeships is intended to 'regenerate' work-based training. The maintenance of a distinct work-based route is perceived as more effective in ensuring the supply of high quality skills matched to the needs of employers than full-time provision. In England in particular, government unwillingness to promote any general education component as part of work-based qualifications has contributed to the marginalisation of the work-based route.

The study (ULP) arrives at the hypothesis that the problems of incorporating work-based provision are more severe for a unified system strategy than for a links strategy, since a unified approach has more stringent requirements for common design features. The analysis of the flow of students (home internationals project) suggests that work-based provision may be more critical for inclusion, by attracting people at risk, while full-time vocational education, having a closer interface with academic education, may be more critical for parity.

Another argument (ULP) put forward in the Scottish context is that vocational qualifications have not yet developed a strong enough position to be able to preserve, within a unified system, the principles that they represent. They should be built up before they are included in a more unified system. In conclusion the question is raised whether strong work-based qualifications and a strong work-based route can be developed in Britain.

3.1.5 The concept of overarching certification

There are proposals for overarching certificates in England and group awards in Scotland. According to the Dearing review, the overarching certificates should be awarded for equivalent levels and quantities of attainment in either academic or vocational qualifications and be subject to additional criteria such as the achievement of key skills. The function of an overarching certificate would be to build on existing plans for smaller qualification blocks and provide a framework for curriculum breadth and coherence. The Scottish group awards are different in that they bring together units and courses from a single unified system. The group award criteria, therefore, can be more stringent with regard to assessment and curriculum design.

The study (ULP) concludes that both overarching certificates and group awards are potential instruments for unifying academic and vocational learning and for promoting parity of esteem, provided these additional layers of certification acquire sufficient currency and status as against their constituent parts.

3.1.6 The flow of students into academic and vocational tracks

The unifying strategies are put in another perspective by an empirical analysis of flows and pathways in post-compulsory education and training in Britain (home internationals project). These investigations on the flow of students into academic and vocational tracks in England, Scotland and Wales have drawn attention to a significant correlation with educational attainment and social class background. The patterns of entry to the academic track (high attainers and middle class) and to the work-based track (middle/low attainers and working class) are similar in the three systems. Participation in the full-time 'further education' (broad vocational) track, however, is marked by significant differences: while in England these youngsters are mostly middle-attainers (Wales: low attainers) and from the middle class, in Scotland the participants are predominantly low-attainers and from the working class.

These differences are partly related to the provision of full-time further education in the systems concerned. The Scottish track is not only low in educational status but also considerably smaller (compared to the academic

1H3

track) than the one in England. Also, the standards of courses are different. While one in three English students in full-time further education in the early 1990s took academic courses, which would be more likely to attract higher attaining and middle-class students, hardly any Scottish student in the corresponding track did so.

The results of this investigation not only inform the debate on parity of esteem; they also throw light on difficulties encountered in implementing unification strategies, particularly in the Scottish context. It becomes evident that despite formal educational similarities between academic and broad vocational tracks, they are very different in terms of their relation to educational and social differentiation. The academic sector in Scotland proved to be more exclusive, in terms of educational status (prior attainment) and social class of entrants, than the one in the other UK countries – which means that the most unified system was the furthest from achieving parity of esteem.

3.2 Tentative conclusions with regard to the issue of 'standing'

Following from the aspects set out above, some tentative conclusions can be drawn on the issue of 'standing'.

Although parity of esteem between vocational and general education has been voiced as an aim in the strategies concerned, the ensuing reforms have only brought about tentative progress in this respect. This is because the underlying problems of disparity and low standing are deeply rooted in education and training traditions, societal interests and aspirations of young people, and can therefore only be solved by targeted policies. The drive towards a unifying system observed in Britain may provide a framework for possible improvement in 'standing'. The preoccupation with government and regulations and the guiding role of qualifications in this system, however, appears to contribute little to this effect.

Potential progress in 'standing' is closely related to a rise in the quality of educational provision at course/curriculum level, e.g. the achievement of GNVQ and the potential impact of core/key skills. At the same time, there is a need for qualitative advance in vocational education to underpin the unification strategy. Qualitative improvements of vocational education, in particular work-based training, are required as preconditions e.g. for attracting higher-achieving students, for including work-based qualifications in a unified system and for achieving the desired effect of overarching certification.

A higher standing of vocational, particularly work-based, education will depend, above all, on qualitative advances in the contents and pedagogy. Attempts, however, to promote work-based qualifications in isolation, e.g. by excluding general education components, may be counter-productive.

The principal way to improve 'standing' in the British context is implied by the following conclusion put forward in the project (ULP): there is a need to go beyond unification as a rejection of academic/vocational division and to explore new possibilities for relating academic and vocational learning.

4. Qualifications with a dual orientation towards employment and higher education

An initiative taken in several countries is to provide the option for trainees or students of vocational programmes to acquire qualifications for university access alongside their vocational qualifications. This provision is based on varying degrees of combination or integration of general and vocational education, and of work-based and education-based learning. The resulting qualification opens up alternative routes into professional work and advanced studies (see Figure 4).

Starting out from partnership work in the projects INTEQUAL and DUOQUAL, the characteristics of qualifications with a dual orientation towards employment and higher education (dual qualifications) and their practical impact are investigated in the sections below.

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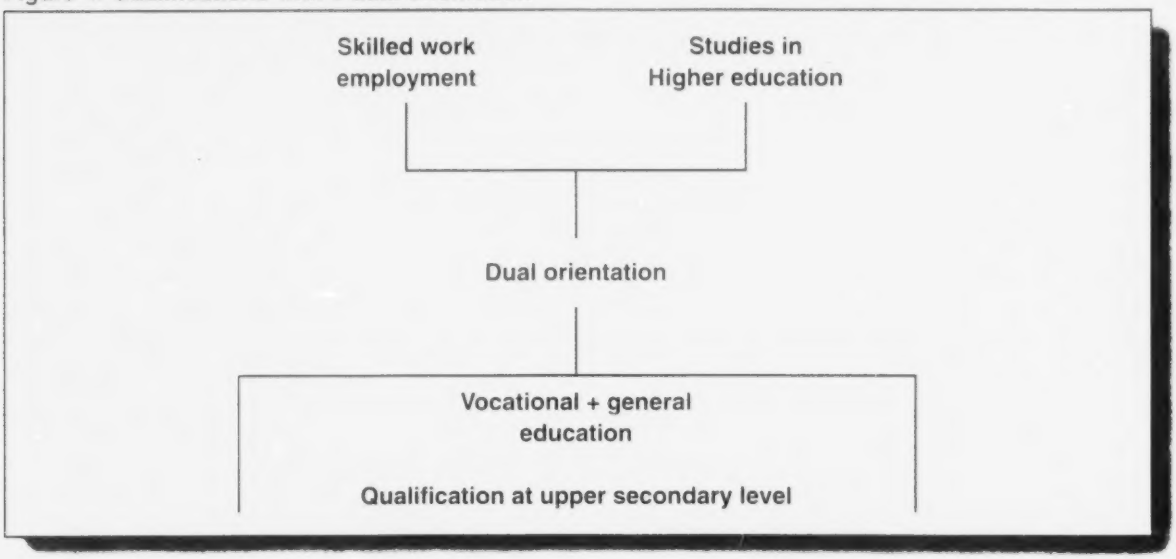
Figure 4: Qualifications with a dual orientation



It should be emphasised that the selection of these schemes is related to the composition of the partnership and the involvement of partners in specific pilot or reform initiatives. Obviously this approach is bound to neglect other schemes operating within individual countries and Europe, so that conclusions have to be drawn with care. References to the broader contexts are in fact included in the national case studies (see references). On the other hand, the approach adopted has provided valuable 'insider' knowledge for the partnership project and strong feedback from the project to the partners' environments.

4.1 Characteristics of dual qualifications

The schemes of dual qualification considered in this study differ considerably with regard to their function, scope and structure. While this poses problems in comparative analysis, it also shows the great variety of initiatives and solutions adopted in the countries concerned. Dual qualifications may be described according to the following characteristics:

a) aims in the national context;
b) dimension;
c) place within upper secondary education;
d) type of certification awarded;
e) role in the process of training and employment;
f) target groups.

4.1.1 The aims of dual qualifications in the national context

The development of dual qualifications is related to specific educational aspirations in the countries concerned:

a) in the Czech Republic, vocational programmes offering a dual qualification enjoy a strong tradition and have recently seen considerable extension throughout upper secondary education;

b) the national reforms in Norway, Portugal and Sweden were initiated to reorganise the education system, particularly at upper secondary level, in such a way that it could meet the demands for lifelong learning and provide qualifications for employment as well as for access to higher education;

c) the ongoing reform in England has aimed at creating a coherent national qualifications framework with three different pathways: general, vocational and a middle one with dual orientation (GNVQ);

d) in France, starting out from the need for higher qualification standards, the intention was to bring the majority of young people up to baccalauréat level and, by creating the Bac Pro, also to meet the demand

for a new category of industrial technicians;

e) the rising educational demand of young people in the Netherlands, especially for a double qualification already in operation (MBO, now: BOL4), has put the question of further developing its dual orientation on the agenda;

f) new schemes have been introduced in Austria, Finland, Germany and, for a period, in Greece specifically designed to overcome the gap between general and vocational education by developing approaches of integrated learning.

4.1.2 The dimension of the schemes of dual qualification

All schemes investigated are part of the upper secondary level of education. Three groups may be distinguished:

a) schemes which extend over an integral part of the whole educational sector, such as the study branches in the Czech Republic, the vocational courses in Portugal and the vocational programmes or streams within the comprehensive school systems of Norway and Sweden;

b) schemes which refer to individual courses or qualifications, e.g. the Bac Pro in France, the GNVQ in England, the IML in Greece, the MBO/ BOL4 in the Netherlands and the WIFI academy courses in Austria;

c) schemes which represent pilot projects within the established systems of vocational education and training, including the experimental reform in Finland and individual projects in Germany (Bavaria/ Brandenburg).

Most of the schemes considered in this study are still in their initial stage (Austria, England, Norway, Portugal, Sweden) or in a pilot phase (Germany, Finland), with one no longer operating (Greece); only three are already established (Czech Republic, France, the Netherlands).

4.1.3 The place of dual qualifications within upper secondary education

The schemes analysed in this study are selected from a broader range of dual qualifications existing in the countries concerned. Dual qualifications can be found in or across all strands of upper secondary education including full-time general, full-time vocational and dual/part-time vocational education.

In all countries, dual qualifications are available within full-time vocational education, i.e. as school-based schemes (Figure 5). This strand of upper secondary education may be regarded as the most fruitful basis of dual qualifications. The schemes involved vary, however, in the extent to which they are related to other strands. Several patterns can be identified:

a) some schemes are confined to the full-time vocational strand only, e.g. the *baccalauréat technologique* (France) and the technological lyceum (Greece) – both being outside this investigation; a few of the full-time schemes (MBO/ BOL4 and GNVQ) are accessible via modular structures which extend over the rest of vocational education (the Netherlands) or over the whole of secondary education (England);

b) other schemes are vocational programmes or streams which link up with full-time general education as part of comprehensive systems (Norway, Sweden); some schemes involve apprenticeships as preceding stages (Czech Republic; France: Bac Pro) or as optional part of the stream (Norway).

In some countries, schemes of dual qualification have been specifically designed to integrate educational strands. General and vocational full-time education have been integrated in two schemes: in the Integrated Multivalent Lyceum (Greece) and in the individual study programmes (Finland). Full-time vocational education and apprenticeship training have been integrated within a course (project in Bavaria, Germany).

1H6

In three countries dual qualifications are provided within the strand of apprenticeship or part-time education: either as a general entitlement (Portugal) or as specific schemes: the *Berufsmatura* and the WIFI academy (Austria) and a pilot project (Brandenburg, Germany).

4.1.4 The type of certification awarded for dual qualifications

Certification for dual qualifications is dependent on the legal framework of the national education system (see also Kirsch et al. 1999) and on the role of academic versus vocational credentials in the society concerned. The type of certificate, therefore, gives little indication in transnational comparison of the characteristics or status of the individual dual qualification. Nevertheless, among the schemes investigated a certain pattern emerges:

a) the most common form is a combination of matriculation and vocational certification – as an expression of a 'double qualification' (Austria, Germany, Greece, Finland, Norway, Portugal); in one case the vocational certificate may be complemented by adding a transfer certificate for higher education (the Netherlands);

b) three schemes (Czech Republic, France, Sweden) lead to matriculation only, with one being qualified as vocational (Bac Pro);

c) only one scheme has a specific certificate (GNVQ: England).

4.1.5 The part of dual qualifications in the process of training and employment

Most schemes of dual qualification have emerged from vocational education and training, thus being part of the process of acquiring vocational qualification for skilled employment in the countries concerned.

While most schemes start immediately after compulsory education, some operate on the basis of a preceding apprenticeship or course of initial training (Czech Republic in part; France) or build on experience of skilled employment (Austria).

Within the schemes, training in full-time, apprenticeship or part-time arrangements may be applied. The majority of schemes are based on full-time education which is extended by offering practical assignments (England, Finland, France, the Netherlands, Portugal and Sweden). The German pilot projects are part of a dual system linking a full programme of training at an enterprise with theoretical vocational instruction at school. The Norwegian scheme includes the options of a full-time course (three years) or a combination of a full-time period and an apprenticeship (two+two years). In the Czech Republic, dual qualifications can be obtained in full-time or part-time courses. An exception is the Austrian scheme, which operates as a part-time course alongside employment.

There is a significant distinction in the relevance for employment between:

a) schemes providing basic vocational education as entry-level qualifications which have to be supplemented by continuing vocational training or on-the-job training (England, Finland, Norway: three years, Sweden);

b) schemes representing full qualifications for skilled labour at craft, technician or middle-management levels (Austria, Czech Republic, Greece, France, the Netherlands, Norway: two+two years, Portugal).

4.1.6 The target groups entering the schemes of dual qualification

All the investigated schemes except for two (Austria, France) are part of the initial vocational training provided at upper secondary level for 16 to 19 year olds. Several of these schemes (Czech Republic, England, Norway, Portugal, Sweden) are open to adult students as well. The Czech and French schemes also offer the option of advanced education and training for students who have already completed initial vocational courses or certain stages of them. In Austria, the scheme is exclusively geared to adults who are already qualified and employed.

While some schemes are accessible for the corresponding target group without precon-

Figure 5: The place of schemes within upper secondary education

Dual qualifications ***within*** project
Dual qualifications ***outside*** project

Country	General education: full-time (school-based)	Vocational education: full-time (school-based)			Vocational education: dual or part-time (work-based)	
Greece	General lyceum	IML	Tech. lyceum	Voc. school	Apprenticeship	
Finland	Gen. Upper sec. school	Exp. reform	Voc. school		Apprenticeship	
England	GCE 'A' level	GNVQ: advanced level			NVQ	
The Netherlands	VWO/HAVO	MBO/BOL4			Apprenticeship	
Sweden	Preparatory study programmes	Vocational programmes			Apprenticeship	
Portugal	General courses	Vocational courses			Apprenticeship	
Norway	General streams	Vocational streams			(incl. apprenticeship)	
Czech Republic	Gymnasium	Study branches (also part-time)			(incl. apprenticeship)	
France	General streams	BTn	Bac pro	(incl. apprent.)	Apprent.	
Germany	Abitur/Gymnasium	Tech. courses	Pilot project	Dual system		
Austria	Matura/AHS	BHS		Berufs-matura	WIFI Academies	

Abbreviations: see list in annex.

Source: Manning 1998.

118

ditions (Austria, Greece, Finland, Norway, Portugal, Sweden), others are restricted in access by requiring specific entry qualifications (England, France, the Netherlands), by setting entry examinations (Czech Republic) or by applying selection criteria (Germany). These distinctions are partly due to general characteristics of the national systems concerned. However, they may also reflect differences in the function and status of the individual schemes. For instance, certain schemes offer dual qualifications as a general option, leaving it to the individual students to make the most of it (Finland, Norway, Portugal, Sweden); other schemes offer dual qualifications as part of distinct and demanding vocational courses (Czech Republic, the Netherlands), and a few schemes are particularly designed to attract high-achievers (Germany, France).

4.2 Practical impact of dual qualifications

In order to assess the practical impact of the schemes of dual qualification, the following indicators are applied:

a) the scale of enrolment in the schemes;

b) the degree of integration within the curriculum;

c) the success rate of students within the scheme and in further study;

d) the balance of dual orientation;

e) the patterns of dual progression.

4.2.1 The scale of enrolment in the schemes

Since the schemes of dual qualification differ in their educational aims, in the length of time they have been in existence and in the target groups they address, the scale of enrolment is bound to vary considerably. In terms of proportion of the relevant age group, participation in the schemes ranges from low level (less than 1%: Austria, Germany) via medium level (5-20%: Greece, England, Finland, France, Portugal) to high level (up to 45%: Czech Republic, the Netherlands, Norway, Sweden). It should be noted, though, that some of these percentages refer to a 'gross' proportion of all entitled entrants, while only a smaller part of these either reach the corresponding level of the course (the Netherlands) or choose to acquire a dual qualification (Finland, Sweden).

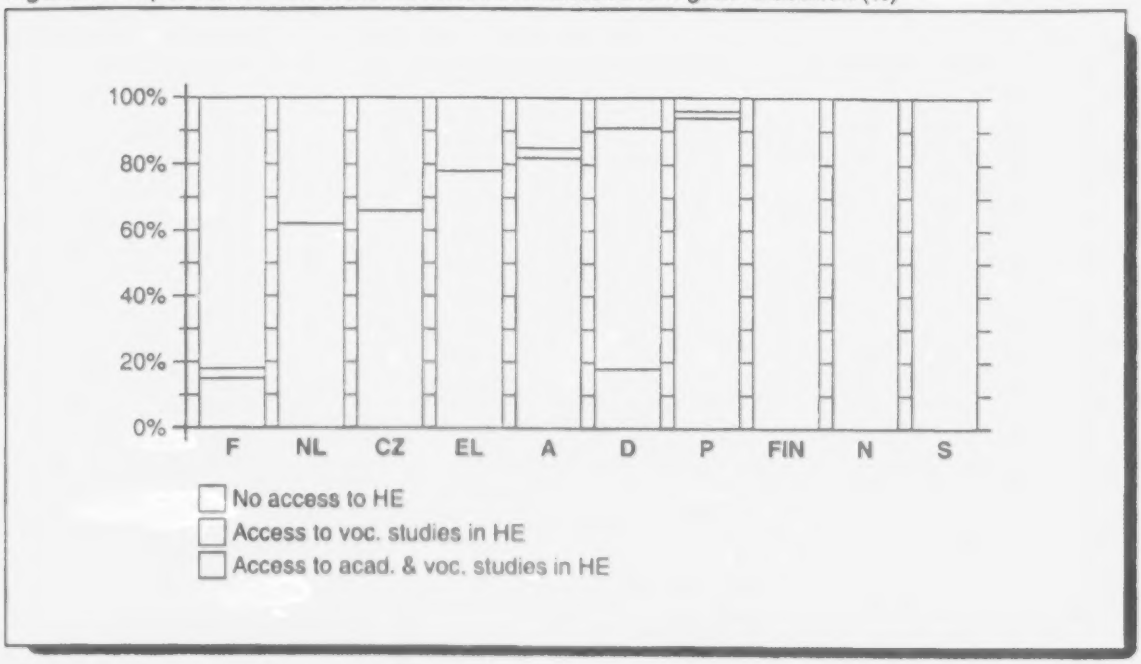
The trends in enrolment point upwards in most schemes (Czech Republic, Greece, England, Finland, the Netherlands, Norway, Portugal). The stable trend observed in some cases may either be connected with a given framework of the scheme (Czech Republic, Germany, Austria) or caused by a saturation of demand (France, Sweden). None of the schemes shows a downward trend in participation.

The predominant upward trend in enrolment correlates, in seven schemes, with significant proportions of the age group involved. This can be interpreted as an indication of both the attractiveness and the relevance of dual qualifications in the majority of the countries concerned.

The schemes selected for this study only partially represent the entire opportunities of acquiring dual qualifications at upper secondary level in the given countries (see also Figure 5 above). To get a more comprehensive picture, data from other sources are included which indicate the entitlement of VET students for access to higher education. In Figure 6, a distinction is made between two choices open for these students: progression to vocational studies or to both academic and vocational studies. It should be stressed that these data only refer to the opportunity in principle and not to the actual flow of students.

As the figure shows, opportunities for taking up further studies after completing vocational education are open to a majority of students (except in France). Access in several countries, however, is restricted (almost or totally) to further vocational studies (Germany, Greece, Finland, the Netherlands). A dual option in the full sense, granting access to both academic and vocational studies, is only avail-

Figure 6: Proportion of VET students entitled for access to higher education (%)



Sources: European Commission 2000; Norway: Manning 1998; Czech Republic: European Training Foundation 1998.

able in five countries (Czech Republic, Norway, Austria, Portugal, Sweden). Finland will join this group after the present reform. It is worth noting that the 'fully' dual option can be found with both comprehensive systems (Nordic) and track systems including several courses/qualifications (Czech Republic, Austria, Portugal).

4.2.2 The degree of integration within the curriculum

A key question raised in this study is the extent to which vocational and general education are integrated. This includes the issue of competence acquired in these schemes. The following comparative analysis stems from two dimensions assumed to be relevant for qualifications with dual orientation:

a) the relationship of dual qualifications to skilled work; and

b) the relationship within the schemes between general and vocational subjects.

In conclusion, the schemes are compared in relation to both dimensions.

Relation of dual qualifications to skilled work

Since dual qualifications are situated in various contexts of education and training they differ in their relation to the requirements of work. To determine the extent and character of their work orientation, two indicators are applied:

a) the part played in the schemes by practical training, characterised by the organisational form (assignment, traineeship and employment) and by duration within the course; and

b) the degree of vocational specialisation within the schemes, measured by the number of primary and secondary divisions (areas, programmes, branches, etc.).

Analysis according to the two indicators produces different groups of schemes whose work orientation ranges from a low via a medium to a high degree. The characteristics of work orientation among the three groups of schemes are summed up below:

150

a) low: training in broad areas; no compulsory practical assignment (Greece, England);

b) medium: training in differentiated vocational areas; practical assignments (Finland, France, Norway: three years, Sweden);

c) high: basic vocational training and full specialisation; extensive practical assignments or traineeship (Czech Republic, Germany, the Netherlands, Norway: two+two years); or broad continuing training related to skilled occupations (Austria).

Relation between general and vocational subjects within the schemes

Attempts made in all schemes to link vocational and general/academic components of the curriculum are relevant not only for advanced studies, but also for high-level skilled work. The curricula of the schemes provide for a variety of combinations involving vocational and general subjects. In the comparative analysis, four approaches have been identified, extending from an additive to an integrative focus:

a) provision of separate general or theoretical subjects within the major curriculum and also as optional units; this additive approach is found in all schemes, mostly as a dominant feature (Czech Republic, Greece, France, Austria, the Netherlands, Norway, Portugal, Sweden);

b) vocational application of general/theoretical subjects or a combination of theoretical and vocational subjects; this approach expresses itself in various initiatives across all schemes, often playing a prominent role (Czech Republic, Germany, Greece, England, Austria);

c) education and training related to transferable skills, overcoming the division of general and vocational abilities; this approach cannot be traced in all schemes, it tends to be an underlying principle (Czech Republic, Germany, England) rather than being applied in practical terms (Finland, Norway, Austria);

d) action-orientated education and training based on work-related parts of the curriculum (projects); all schemes include variants of this approach, with particular relevance being attributed to a project-related curriculum in the German case.

Within each approach, a considerable similarity (groups (a), (d)) or variety (groups (b), (c)) of practice can be observed across all schemes. This evidence suggests that the forms of combining general and vocational subjects are fairly independent of or easily adaptable to different categories of schemes. The relative weight of the different approaches, however, differs between schemes. This is an indication of the degree to which general and vocational subjects are integrated. According to this criterion, the schemes range from a low degree of integration (France, the Netherlands, Portugal, Sweden) via a medium degree (Czech Republic, Greece, England, Finland, Norway, Portugal) to a high degree (Germany, Austria).

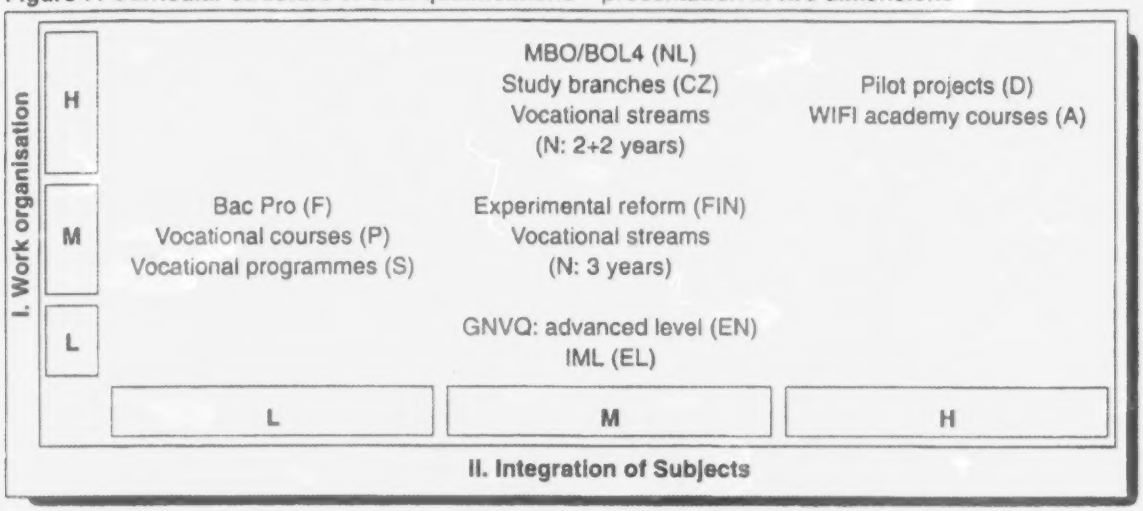
Curricular structure of dual qualifications

Analysis of schemes according to dimensions of work orientation and integration of subjects has led to different groupings in each case. In a concluding step, both dimensions are combined in a matrix with the schemes arranged accordingly (Figure 7). Three clusters of schemes may be distinguished:

a) the majority of schemes combine medium work orientation with either low integration (the Netherlands, Portugal, Sweden) or medium integration of subjects (Greece, Finland, Norway: three years). Two more cases are included in this cluster which are characterised by either low work orientation and medium subject integration (England) or high work orientation and low subject integration (the Netherlands);

b) the rest of the schemes form a cluster combining medium and high degrees of both work orientation and integration of subjects (Czech Republic, Germany, Norway, Austria: two+two years). The German pilot projects, in particular, display the potential of work-based education and train-

Figure 7: Curricular structure of dual qualifications – presentation in two dimensions



I. Degree of work orientation (practical training and specialisation)
II. Degree of integration between general and vocational subjects

L = low/ M = medium/ H = high
Abbreviations, see list in annex.
Source: Manning 1998.

ing in combination with a highly integrated curriculum;

c) there are no cases of both low work orientation and low integration of subjects. If recent developments of and plans for the schemes are considered, little change may be expected with regard to work orientation, but further advance is likely with regard to the integration of subjects (e.g. initiatives in NL, and gradual steps following the reforms in Norway, Portugal, Sweden). This trend may result in boosting the group of schemes which combine a medium degree of integration with various degrees of work orientation (the central column in the matrix).

4.2.3 The success rate of students within the scheme and in further study

In preparation for access to higher education, students in schemes of dual qualification compete with those in tracks of general education. Their comparative performance at the point of graduation is therefore significant. On the one hand, Bac Pro students achieve a rate of success by the end of their course which characterises French baccalauréat holders in general, and graduates from German pilot projects reach a particularly high performance rate; on the other hand, the poor completion rate in GNVQ courses is a cause of concern in England, and the performance of students in the Finnish experimental reform is also below that of students in general education.

At the point of entry to higher education, the success of graduates with dual qualification may be equal to those with general education (Czech Republic, Greece) or less (Portugal). As to progression within higher education, the two cases for which evidence is available (France, the Netherlands) require a closer look: while the success rate of Bac Pro holders hardly exceeds half of them, but matches the general rate in advanced technical studies, the success rate of MBO holders after two years of study reaches three quarters which is slightly below the average in higher vocational institutes.

A tentative conclusion supported by the case studies is that students in various schemes face difficulties in progression to higher education. Steps considered to raise the chances of success (e.g. in England, the Netherlands) include partnerships or compact arrangements between the institutions which offer a

Figure 8: The balance of dual orientation towards higher education (HE) and employment

HE > Employment	HE = Employment	HE < Employment
Pilot projects (D: Bavaria)	GNVQ: advanced level (EN)	Vocational streams (N)
	IML (EL)	Vocational programmes (S)
	Study branches (CZ)	Vocational courses (P)
	Experimental reform (FIN)	WIFI academy courses (A)
		MBO/BOL4 (NL)
		Bac Pro (F)

Abbreviations, see list in annex.
Source: Manning 1998.

dual qualification and those providing higher education. Also, the possibility for individuals to enter enriched or enhanced programmes within the schemes can greatly affect their subsequent prospects of success in higher education.

4.2.4 The balance of dual orientation

While all schemes allow for a dual orientation, they differ in the relative weight attributed to either employment or higher education. Several of them put the emphasis on employment as the prior aim and also function like this in practice (Austria: 37% 1997, France: 12% 1992, the Netherlands: 27% 1996, Portugal). This emphasis is likely to apply to the vocational streams or programmes (Norway, Sweden) as well, despite their original claim of a balanced orientation. Another group of schemes (Czech Republic, Greece, England, Finland) offers and also achieves a fairly equal weight of the two progression routes (about 50% 1995 for both Greece and England and 46% 1996 for Czech Republic). Only one scheme (Germany) is geared primarily towards higher education (95% 1998), but in terms of a vocational career.

The flow of graduates into higher education, if followed over a longer period, shows various trends (downward, stable, upward). These are related to more general changes, for instance in the demand of young people for upper secondary and higher education, in the provision of study places and in alternative chances on the labour market. The evidence of trends does not imply any significant shift in the balance of dual orientation. If the latest percentage figures are considered it is evident that the dual orientation functions in practical terms. The overall balance of the schemes is summed up in Figure 8.

4.2.5 The patterns of dual progression

How does dual orientation towards higher education and employment function in real terms? To start with, evidence on the targets of the qualifications and the options open for graduates is analysed. In conclusion, typical patterns of dual progression are identified.

4.2.5.1 The orientation of dual qualifications towards employment

As the analysis of the curricula of dual qualifications has shown, the degree of work orientation varies significantly between schemes. This diversity affects the level and type of occupation envisaged for graduates, ranging from unspecified employment via skilled work to middle-level management. At

the same time, depending on the national context, the congruence between qualifications and occupations and the modalities of the transfer from education to work vary greatly. While in some countries, the relationship between the qualification obtained in the scheme and the type of occupation it prepares for is clearly defined (Czech Republic, Germany, France, the Netherlands, Austria), in other countries the occupational orientation of the schemes is less specific (Greece, England, Finland, Norway, Sweden).

The pattern of occupations related to dual qualifications includes a category of special significance: so-called 'highly skilled work' which is situated between ordinary skill level and technician level. The schemes forming this group (Czech Republic: SVS, Germany, France) have two features in common: they have a clearly defined occupational profile and they address high achievers among the trainees.

Some evidence is available on the position of graduates with dual qualifications on the labour market: chances for graduates to enter the labour market is indicated, in general terms, by the employment rate. This appears to be high for dually qualified graduates compared to the employment rate of other young job seekers, even if the evidence available does not allow to make detailed comparisons (Greece, Germany, Finland, France, the Netherlands). No opposite cases of a low employment rate are known from this study. It may be assumed, therefore, that dual qualifications provide good chances for their graduates compared to other job seekers on the labour market.

Another question is whether the jobs obtained by dually qualified graduates match the occupational levels envisaged in the schemes concerned. While three cases indicate a close relationship between the occupational target of the scheme and the actual job obtained (Greece, Austria, Portugal), one case implies a lower entry level (France) which however may be followed by occupational progression. Altogether, the evidence available suggests a positive relationship between the envisaged and the achieved occupational levels.

It may be concluded from the evidence available that dual qualifications enhance prospects for gaining skilled employment as against ordinary qualifications at upper secondary level.

4.2.5.2 The orientation of dual qualifications towards higher education

Orientation towards higher education implies a precondition and/ or an entitlement to have access to studies which may extend from higher vocational to academic courses. In those countries where there is a clear distinction between tracks of vocational and academic institutions at upper secondary and tertiary levels (Germany, Greece, the Netherlands, Austria), the schemes specifically qualify for access to the technical sector of higher education, partly granting additional entitlement for access to academic studies (Austria). In other countries which have developed a more integrated structure of secondary and higher education (England, Finland, Norway, Sweden) and in France, the schemes serve as a general entitlement for access to higher education. However, as the case studies show, the special requirements insisted upon by individual faculties reduce the options in actual terms. In most cases, therefore, access is in practice confined to technical courses or studies in the domain-related areas.

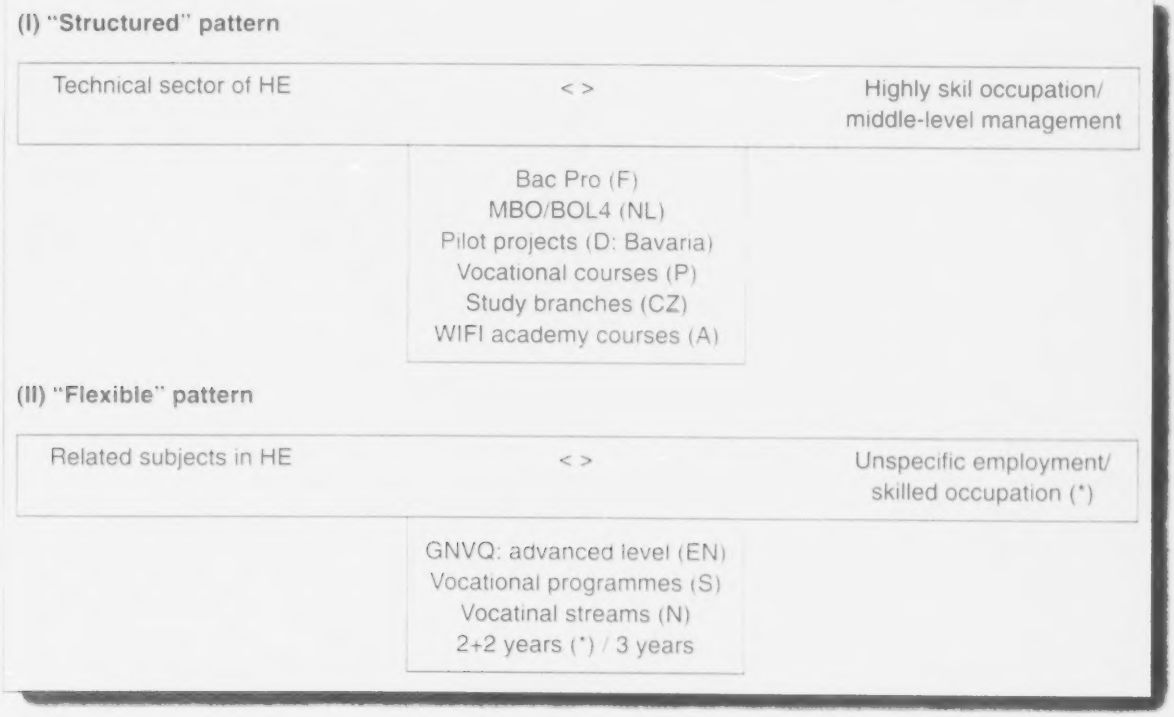
4.2.5.3 Patterns of dual progression

If the typical career prospects of dual qualifications set out above are compiled for each scheme (with evidence available for nine of them), two major patterns of dual progression emerge (Figure 9):

a) most of the schemes offer a choice between access to studies in the technical sector or entry into highly skilled employment/ middle-level management (Czech Republic, Germany, France, the Netherlands, Austria, Portugal);

b) a smaller group of schemes provide opportunities of either progression to studies in related subjects (with no established technical sector available) or unspecified em-

Figure 9: Patterns of dual progression



ployment (England, Norway: three years, Sweden).

The first of the two patterns is likely to open up more structured professional careers, also in terms of close relations and potential combinations between technical studies and highly skilled/ managerial work. The second pattern functions under conditions of a more flexible relationship between higher education and labour market in the countries concerned.

The patterns above suggest that there is a significant relationship between the two options of progression. Particularly in pattern I, by preparing both for (highly) skilled work and work-related studies, dual qualifications provide a basis for professional careers in a lifelong learning process.

4.3 The potential of dual qualifications

Altogether, dual qualifications potentially live up to the criteria identified for high standing of VET (see Figure 1 in Section 1): providing personal competence and facilitating mobility both in the education system and the labour market. Figure 10 summarises the characteristics of dual qualification according to this model.

For assessing the relevance of dual qualifications in vocational education provision and in facilitating transition to the labour market, the conclusions drawn in two external studies are significant:

a) within the whole spectrum of transition from education and training (at secondary level) to work 'double' qualifications are likely to mark the highest degree of opportunity (Hannan 1999);

b) the introduction of demanding 'double qualifying' pathways is intended to raise participation in VET. The success of these pathways, however, seems to some extent related to their selectivity in favour of the most successful students (Durand-Drouhin 1999).

The results of both of these studies and of the INTEQUAL/DUOQUAL project confirm that

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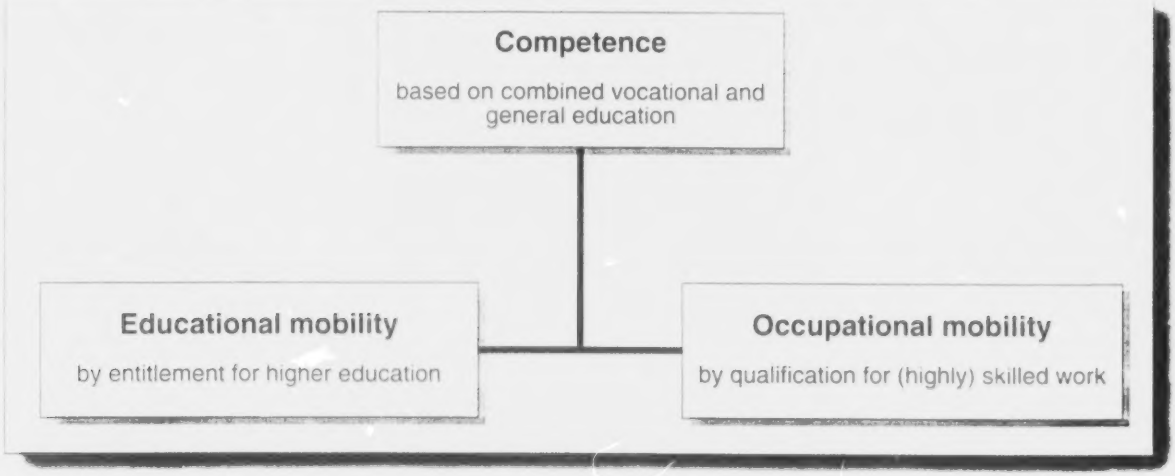
Figure 10: The potential of dual qualifications



dual qualifications improve the chances of young people entering educational and occupational careers, thereby contributing to an upward trend of differentiation within secondary vocational education. In a context of wide-ranging problems of transition from education to work, with a large section of young people being at risk, dually qualifying pathways are in effect selective, leaving those perceived as 'low-achievers' behind. The challenge for educational policy, therefore, is to ensure that schemes of dual qualification are part of transparent and flexible systems, being accessible from any point and linking up to other parts of education and training.

5. Attitudes towards the esteem of vocational education – evidence from case studies

The esteem of vocational education and ways of improving its attractiveness have been analysed in another parallel project (PAVE), involving case studies on England and Wales, Finland, Greece, Ireland and the Netherlands. The following section summarises the major approach and relevant results, based on the project report (Trant et al. 1999).

The investigation focuses on the tension between vocational and liberal (rather than general) education, also tracing the evolution of these concepts, and sets out to explore ways of reconciling the two. Three hypotheses have led the project research:

a) *'vocational education in general has low prestige because it is perceived to lack the qualities traditionally associated with liberal education;*

b) *liberal education at its best has a vocational dimension and vocational education at its best has a liberal dimension; hence it makes good sense to integrate the two;*

c) *examples of such integration already exist but they need to be examined critically and articulated more clearly.'*

The major message in conclusion is that liberal and vocational education should be regarded as two complementary aspects of the same task: the fashioning of the human person. An educational challenge of the coming century will be to create a new synthesis of the liberal and vocational ideals and to rediscover their underlying complementarity.

The methodology applied in the study comprises three dimensions:

a) the philosophical one which attempts to analyse possibilities of integrating the liberal and vocational traditions;

b) the historical/hermeneutical one which facilitates the evaluation of documentary evidence;

156

c) the ethnographic one which examines examples of good practice through selected case studies.

Other than the previously reviewed projects, PAVE did not undertake a comparative analysis of different education systems, but sought to study a number of individual cases in their national contexts. These case studies include:

- the GNVQ experience in England and Wales;
- double qualifications through cooperation between academic and vocational upper secondary schools in Finland;
- improving the status and attractiveness of vocational education in Greece;
- the leaving certificate applied: a prevocational programme in Ireland;
- the liberal dimension in secondary vocational education in the Netherlands.

A special approach applied in the case studies are interviews and questionnaires carried out in individual schools involving students, teachers, and also partly administrative staff, parents and professionals. The evidence produced on this basis offers special insight into the issue of parity of esteem: the studies reveal the perception of individuals, their attitudes towards vocational education and ways of influencing these attitudes.

Parity of esteem is considered in a social context, starting out from the observation that vocational education is in most cases regarded as having lower status than liberal education. The reason for this is sought in the values, attitudes and beliefs that people hold. These values may refer to the courses which students follow, the schools they attend, the types of learning, the forms of knowledge and the ways in which these are assessed.

On a closer look, the world of education turns out to be concerned with diverse patterns of values. While the value system of society has its impact on schools, education itself is saturated with values. Moreover, education is not only a mirror of values, it also transmits and communicates values and may shape these values in its own right (see also Walsh 1993). These considerations provide the background against which the evidence of the case studies related to the issue of parity of esteem, is assessed in the study.

A conflict may occur between new values realised in the learning environment and the prevalent value system, e.g. students could benefit educationally from a learning environment created in a vocational course, but in the end face barriers of prejudice associated with the qualification obtained. This situation raises the question of whether and how the prevalent system could be challenged.

The values involved in the traditional vocational subjects can make a substantial contribution to the social and personal fulfilment of human beings. Their liberating potential therefore can be just as important as that of the traditional 'liberating' subjects. This potential however has been both undervalued and underdeveloped. Many academics share this underestimation, while vocational educators may fail to demonstrate the values of vocational subjects for human development.

In view of the generally low status of vocational education, the question is how to remedy the situation. Individual schools facing this challenge often experience an uphill struggle, with several approaches being adopted to improve the image of vocational education:

a) two English schools have attempted to reassure parents that the new vocational course concerned is as good as the traditional academic one (GNVQ as compared with the more familiar A levels);

b) an Irish school has initiated a publicity campaign in the local area to make employers and parents aware that the new vocational course is more work-related than the traditional one (the leaving certificate applied compared to the leaving certificate). Despite these efforts, the public perception of vocational courses proved difficult to correct.

In both cases, media coverage particularly in the tabloid press had an adverse effect on the attitudes of students and parents.

An important factor in determining the status of new vocational courses is the drop-out problem, as experienced in the Finnish, Greek and Irish cases. Among the reasons encountered for the drop out of students in the Finnish experiment (individual programmes of double qualification) was the extra work load which the students had to bear and also inadequate selection, with students underestimating the demands of the study.

Problems of communication, too, appear to affect the status of vocational education. In the Finnish case, this problem turned out to be related to the culture gap between the academic and vocational traditions. Information provided for prospective students in double qualification programmes, for instance, did not cover everyday routines in the academic schools. Academic teachers providing the information took these routines for granted, not realising that these were unknown in vocational schools. Experience from the English case study confirmed that clear information and first-hand experience were vital for generating positive attitudes towards vocational education among students.

In summing up the evidence of the case studies the authors see a certain chance for schools themselves being able to influence the esteem of vocational education and in some ways being ahead of national consciousness.

A major conclusion drawn from the analysis of parity of esteem is that vocational education should not only prepare technicians and skilled workers but also enable young people to enhance their own human development. In particular, the aspiration to proceed to further and higher education is encountered across the case studies. It is seen as the critical factor in deciding the status of a particular vocational course. At the same time, the failure of both academic and vocational education to cater adequately for underachievers exposes these youngsters to perpetual low status.

It is worth noting that the PAVE project with its focus on values and attitudes, arrives at virtually the same conclusion as the previous projects adopting a systemic approach. In essence the study provides further dimensions of the quality of vocational education, as a major basis of esteem, and confirms the key role of the dual option for skilled work and higher education in improving the esteem.

6. Conclusions about trends and prospects for improving the standing of vocational compared to general education

To summarise issues of the standing of vocational compared to general education across the various projects and the countries involved, the comparative approach outlined at the beginning (Section 1) is taken up again. First, the issues of 'standing' are considered in typical settings, second, criteria are applied to assess the 'standing'.

6.1 Issues of 'standing' in typical settings

Starting out from the three levels of analysis – course/curriculum, education system and labour market (Figure 1) – a tentative typology of national settings is applied which cuts across these three levels. This typology picks up on investigations of education and work in an institutional context (Müller and Shavit 1998) and on studies into the transition from education to work (Durand-Drouhin 1999; Hannan 1999) which capture the relation between the education system and the labour market. The following three types of national settings for relating education and work, particularly for the 16 to 19 age group, are suggested (Figure 11):

It should be noted that the allocation of countries to these types follows a normative approach, being based on systemic characteristics rather than empirical findings. Evidence for the loose type can in fact only be found outside the European context of investigation. Furthermore, the reforms which several countries are undergoing imply processes of

158

Figure 11: National settings of relating education and work

Type	Setting	Country
I = close	Close relationship between education system and labour market, including a tracked system of education and a qualification structure which has direct relevance for occupational entry	Austria, Czech Republic, Denmark, Germany, Netherlands, Hungary
II = loose	Loose relationship between education system and labour market, with a flexible match between qualifications and occupations or jobs, allowing for predominant school-based, broad vocational education and subsequent on-the-job training	Australia, Canada, Japan, USA(*)
III = varied	Varied relationship between education system and labour market, with close matching confined to apprenticeship or specialised VET and loose matching related to predominant full-time education; calling for coherent education and qualification frameworks across all sections	England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, Sweden

(*) Countries included according to external study (Durand-Drouhin 1999).

change which cannot be considered in this structure. Nevertheless, by grouping the countries according to these settings, basic relations between education systems and labour markets can be identified which help interpret national differences in the standing of vocational compared to general education. The problems related to 'standing' and the measures expected to solve them are summarised below according to the three types of setting.

Type I: close relationship

Based on established standards of apprenticeship training and full-time technical courses, countries seek to enhance the quality and status of vocational education by measures such as:

a) promoting key qualifications (Austria, Germany);

b) providing flexible links between school- and work-related provision at various levels and institutions (Denmark, Netherlands);

c) offering dual qualifications (access to higher education) for high achievers from vocational tracks, e.g. *Berufsmatura* (Austria), pilot projects (Germany).

In cases of socioeconomic transition, where training systems used to be fully developed in a planned economy being highly specialised according to occupational structures, and now having to adapt to new demands of a market economy (Czech Republic, Hungary), the reform measures are geared to:

a) overcoming extensive specialisation;

b) developing key qualifications;

c) retaining traditional pattern of work-based qualification.

The standing of vocational education in the first type of setting (established group) is underpinned by regulations which make vocational qualifications a precondition for entry to skilled employment. This provides a certain advantage over secondary general education and partly even stimulates mobility

from general to vocational tracks at upper secondary level (the Netherlands). The challenge, however, lies in the superior career prospects of graduates with both vocational and general certificates at upper secondary level and of higher education graduates.

Type II: loose relationship

Both the occupational specificity and stratification of secondary education are at a low level, matching open labour markets characterised by large service sectors. Countries with this setting often provide comprehensive school patterns, with programmes of broad vocational education included, while entry to employment is facilitated by on-the-job training. Generic concepts of employability, with an emphasis on key competences, dominate. At the same time, there are efforts in such countries to involve employers in education and training, through development of school-enterprise partnerships and practical assignments (Durand-Drouhin 1999; Mueller and Shavit 1998).

Despite far reaching attempts to raise the standards and occupational relevance of vocational education in these countries, 'standing' in terms of demand for places and prospects of employment remains problematical. A major reason for this can be found in the characteristics of this setting: since there is no distinct relationship between vocational qualifications and occupational requirements (specific skills being acquired in the workplace), the qualification obtained at school is considered by employers as indirect information on the applicant (general abilities, etc.) rather than as evidence of defined knowledge and skills. (This contrasts with the 'close' relationship in type I, where a standard qualification or vocational certificate is regarded by the employer as a direct indication of the competence and skills acquired.) In this respect, graduates from vocational programmes or strands tend to be at a disadvantage over those from general programmes in cases where they both compete for the same jobs.

Type III: varied relationship

Attempts are made in this setting to overcome problems of transition from education to work arising from a diversity of institutions, courses and certificates in vocational education and to establish coherent structures across upper secondary education. This is done, for instance, by integrating general and vocational programmes in comprehensive schools (Norway, Sweden), by promoting horizontal flexibility between vocational and educational pathways, especially within individual study programmes (Finland), and by providing at certificate and programme levels a framework of formal recognition of vocational education (England, Estonia, France, Portugal, Spain, Scotland). Output-related qualification structures are developed particularly for modular systems (England, Scotland). In some cases the framework includes provision for equivalence between vocational and general education, e.g. equal entitlement for access to higher education (Portugal) or overarching certification (England).

These attempts of promoting coherence only partly include the curricular level. Examples are the creation of the (former) integrated multivalent lyceum (Greece) and the implementation of general pedagogical concepts of new professional competences (Portugal).

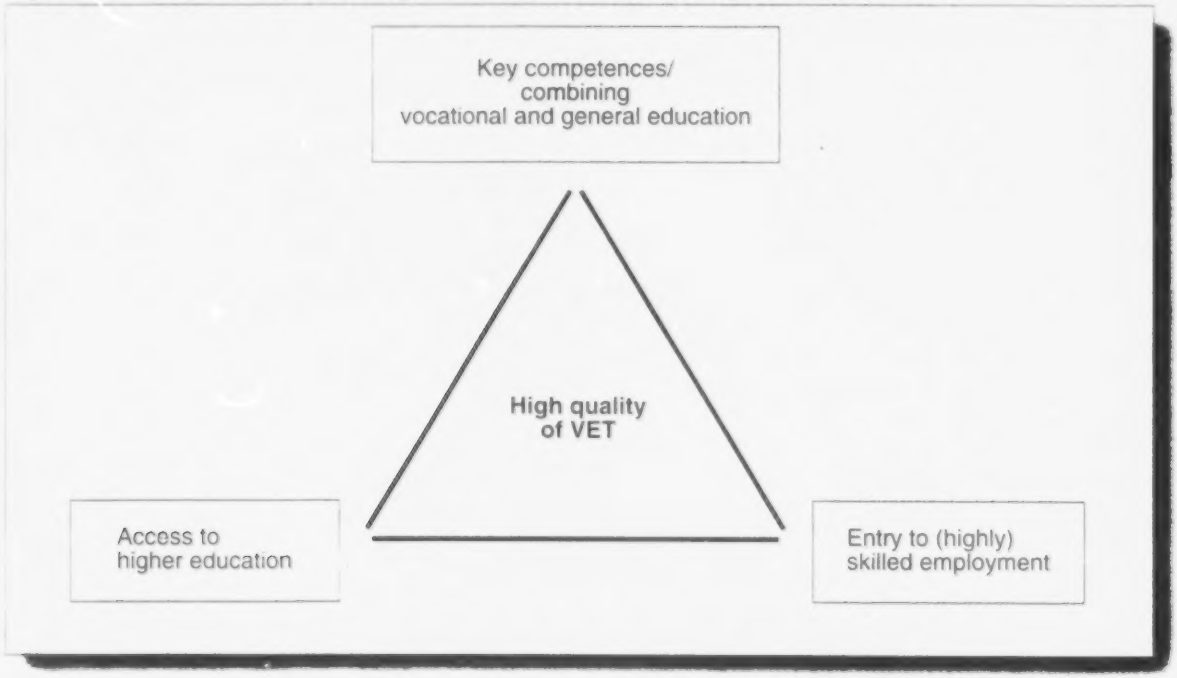
The relationship between the education system and the labour market within this setting varies, among other factors, according to the role and involvement of enterprises, particularly in work-based training. The following situations may be identified:

a) in a few countries (e.g. France) relations between the diverse education system and the labour market are facilitated by a large-scale commitment of enterprises in providing work-based training, partly as assignments or traineeships for students and partly as firm-specific training for new employees;

b) moves towards building up the work-based part of vocational education have been made especially in the Nordic countries, e.g.:

   i. by forging cooperation between schools and enterprises for providing practical assignments (Sweden),

Figure 12: Criteria for high standing of vocational compared to general education



ii. by introducing an extra year of work-based training in VET programmes (Finland), or

iii. by linking school-based and apprenticeship training, with a pattern of two years full-time education and two years apprenticeship (Norway).

However, problems in finding placements and qualified trainers in enterprises partly pose drawbacks to these reforms:

c) most countries (England, Estonia, Greece, Portugal, Scotland, Spain) face problems related to a low profile and insufficient provision of work-based training, with inferior standards of apprenticeships and lack of opportunities of gaining practical experience within school-based programmes. Their specific conditions, actions and achievements in tackling these problems, however, vary considerably owing to the diversity of education systems and labour markets particularly in these types of setting.

6.2 Improvement of 'standing'

For assessing the standing of vocational compared to general education and its prospect of improvement resulting from various measures, the initial framework of three criteria is applied (Section 1, Figure 1). In more specific terms, high 'standing' should be interpreted according to the following characteristics which relate to dual qualifications:

a) acquisition of key competences/ integration of vocational and general education;

b) opportunity for access to academic and vocational higher education;

c) qualification for entry to (highly) skilled employment.

This set of characteristics represents an ideal-type model which should be regarded as an aim or direction of development, linking up with all sections of vocational education and with general education (Figure 12).

The 'standing' of vocational education in a given system may be assessed as 'high' (or equal to general education) given the following conditions:

- if high 'standing' is achieved according to all three criteria (or characteristics).

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In the German dual system, for instance, only two criteria are fully met: young people typically acquire a high level of competence and gain entry to skilled employment, but they have limited access to higher education (apart from schemes in individual *Länder*);

- if high 'standing' extends over a major part of upper secondary education.

  The French scheme of Bac Pro for example proves to be limited in this respect: although corresponding to all criteria of high standing, it involves only a moderate percentage of young people while the major part of vocational education remains at the bottom of the educational hierarchy;

- if high 'standing' relates to public esteem.

  The Swedish vocational programmes for instance meet the three criteria, but do not seem to gain in public esteem, presumably because the traditional role of vocational education as second choice for low-achievers has not changed and the qualitative improvements in the curricula are largely shared by the general programmes as well.

Altogether, improvement of the standing of vocational compared to general education is a permanent aim which can only be approached by continuing enhancement and adaptation to new requirements.

For enriching and deepening existing knowledge on 'standing', further insight is required into the basic assumptions guiding definitions of the core contents of academic/general and vocational educational goals, in particular the following aspects:

- how changing concepts of knowledge accumulation and management may affect assessments of the ability of different forms of education to create preconditions for tertiary-level studies and qualifications;
- how modern curricula and/or teaching and learning environments may shift the balance between
  - i) absorbing fundamental knowledge structures,
  - ii) acquiring knowledge with a view to applying it in practice and
  - iii) linking the acquired knowledge bases to new knowledge and new contexts of application;
- how the ability to coordinate, systemically and socially, organisation-specific operational situations, (an essential aspect of modern occupational skills) may also become a model in academic/general education;
- how developing the structures and curricula of vocational education may serve as a dynamic response to the challenge of shifting occupational structures and the gradual obsolescence of practical occupational knowledge.

This contribution may stimulate further projects to consider these aspects and relate them to the current debate about vocational pedagogy and educational policy.

Summary

This contribution is mainly based on research results provided by four major partnership projects: Post-16 Strategies/ SPES-NET coordinated by the Institute for Educational Research, University of Jyväskylä, and INTEQUAL/ DUOQUAL coordinated by the research forum WIFO, Berlin. These projects have been carried out with the financial support of the European Commission within the framework of the Leonardo da Vinci programme. The SPES-NET and DUOQUAL projects are still running and, therefore, final results are not available yet. Further, the contribution draws on the results of studies undertaken by individual partners involved in associated projects, in particular the UK-based project on unifying academic and vocational learning (ULP) and a parallel Leonardo project on improving the status and attractiveness of initial vocational education and training (PAVE).

In analysing the standing of vocational compared to general education (the 'standing') in

European countries, three levels are considered: course/ curriculum, education system and labour market. On this basis, a model of criteria is applied which relates 'standing' to the quality of VET. The three criteria are personal competence (including skills), educational mobility (for lifelong learning), and occupational mobility (at the labour market). This comparative approach serves to carry out the present investigation within and across several individual projects, providing a framework of secondary analysis.

Reforms focusing on post-16 education strategies to promote parity of esteem between vocational and general education

The Post-16 Strategies project identified four reform strategies in eight upper secondary education systems for promoting parity of esteem between vocational and general education. These were vocational enhancement, mutual enrichment, links and unification. The inclusion of more countries in the SPES-NET project led to further differentiation within and between categories of reform. The original strategies were complemented with substrategies focusing on lifelong learning including the issue of access; partnerships between providers of VET and employers; teachers' and trainers' qualifications; and the knowledge base of VET.

Each country's reform programme might include elements of different strategies, and the emphasis of a country's policy could change over time. The four strategies represent a continuum between strategies based on the distinctiveness of academic and vocational education and those based on their full integration, with links and mutual enrichment as intermediate strategies between the two poles. Each of the partner countries have key system issues which the reforms are seeking to resolve.

Those systems that want to move in a more unified direction and at the same time have high degrees of student choice may also be encouraging academic drift or reflecting more basic social divisions between academic and vocational orientations because of the way in which prevailing values and cultures impinge upon student choices. This could be countered by very strong and supportive messages coming from the labour market concerning the acquisition of certain types of vocational qualifications.

However, in the absence of this or of divisions of opinion amongst employers, the answer may be more prescription and rules of combination provided by qualifications authorities, both to protect the integrity of the vocational route and to encourage students to be more radical in the ways in which they combine studies.

All the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for qualitative changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, in new technology, in patterns of occupational mobility and in the pace of change itself are seen to require increased adaptability, the capacity to learn new skills in the future, personal and transferable skills, and so on.

Most of the reforms seek to enhance links between VET and the labour market, and to make VET more responsive to labour-market needs. This is pursued through networking with local enterprises, through the formal representation of industry in the machinery for designing curricula and qualifications, and in some systems by allowing greater responsiveness to local needs. In most countries, therefore, we can identify an attempt to increase the influence of the labour market within the reforms.

However this is not the same as a labour-market influence *on* the reforms themselves. In most of the countries studied the main impetus to reform appears to be, not pressure from the labour market, but internal pressures arising from the need to rationalise the education system itself. This is most obvious in Austria and Germany. The reforms in Norway, Scotland and Sweden aim to simplify their systems and make them more coherent through unifying or comprehensive reforms.

The reforms in England, Finland and France pursue rationalisation through links of various kinds rather than unification. We assume that VET systems' responses to labour-market changes depend on whether and how these changes coincide with problems internal to VET itself.

Implications of unifying post-compulsory education – the British case

The focus of this analysis is on attempts in these countries to reduce divisions between academic and vocational tracks and to develop a more coherent system. In addition, a related study on flows and pathways in post-compulsory education and training provides empirical evidence on the destination of students of academic and vocational tracks in England, Scotland and Wales against the background of educational attainment and social class.

The drive towards a unifying system observed in Britain may provide a framework for possible improvement in 'standing'. The preoccupation with government and regulations and the guiding role of qualifications in this system, however, appears to contribute little to this effect. Potential progress in 'standing' is closely related to a rise in the quality of educational provision at course/curriculum level, e.g. the achievement of GNVQ and the potential impact of core/key skills. At the same time, there is a need for qualitative advance in vocational education to underpin the unification strategy. Qualitative improvements of vocational education, in particular work-based training, are required as preconditions, e.g. for attracting higher-achieving students, for including work-based qualifications in a unified system and for achieving the desired effect of overarching certification.

Qualifications with a dual orientation towards employment and higher education

An initiative taken in several countries is to provide the option for trainees or students to acquire qualifications combining vocational and general education to provide a dual orientation towards employment and higher education. In the projects INTEQUAL, DUOQUAL the characteristics and practical impact of these dual qualifications have been investigated across Europe.

In analysing the curricula of dual qualifications, two clusters may be distinguished: the majority of schemes combine medium work orientation with low or medium integration of subjects; the rest of the schemes combine medium and high degrees of both work orientation and integration of subjects. Looking at recent developments, little change may be expected with regard to work orientation, but further advance is likely with regard to the integration of subjects. This trend may result in boosting the group of schemes which combine a medium degree of integration with various degrees of work orientation.

If the typical career prospects of dual qualifications are compiled, two major patterns of dual progression emerge: most of the schemes offer a choice between access to studies in the technical sector or entry into highly skilled employment/ middle-level management; a smaller group of schemes provide opportunities of either progression to studies in related subjects (with no established technical sector available) or unspecified employment. These patterns suggest that there is a significant relationship between the two options of progression. By preparing both for (highly) skilled work and work-related studies, dual qualifications provide a basis for professional careers in a lifelong learning process.

Altogether, dual qualifications potentially live up to the criteria identified for high standing of VET: providing personal competence and facilitating mobility both in the education system and the labour market. Dual qualifications improve the chances of young people for entering educational and occupational careers, thereby contributing to an upward trend of differentiation within secondary vocational education. In a context of wide-ranging problems of transition from education to work, with a large section of young people being at risk, dually qualifying pathways are in effect selective, leaving those perceived as 'low-achievers' behind. The challenge for educational policy, therefore, is to ensure that

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schemes of dual qualification are part of transparent and flexible systems, being accessible from any point and linking up to other parts of education and training.

Attitudes towards the esteem of vocational education – evidence from case studies

The esteem of vocational education and ways of improving its attractiveness have been analysed in another parallel project (PAVE), involving case studies on England and Wales, Finland, Greece, Ireland and the Netherlands. The investigation focuses on the tension between vocational and liberal (rather than general) education, also tracing the evolution of these concepts, and sets out to explore ways of reconciling the two. The project's major message is that liberal and vocational education should be regarded as two complementary aspects of the same task: the fashioning of the human person.

Parity of esteem is considered in a social context, starting out from the observation that vocational education is in most cases regarded as having lower status than that of liberal education. The reason for this is sought in the values, attitudes and beliefs that people hold. These values may refer to the courses which students follow, the schools they attend, the types of learning, the forms of knowledge and the ways in which these are assessed. The values involved in the traditional vocational subjects can make a substantial contribution to the social and personal fulfilment of human beings. Their liberating potential therefore can be just as important as that of the traditional 'liberating' subjects. Schools themselves may be able to influence the esteem of vocational education and in some ways be ahead of the prevalent value system.

A major conclusion is that vocational education should not only prepare technicians and skilled workers but also enable young people to enhance their own human development. In particular, the aspiration to proceed to further and higher education is seen as the critical factor in deciding the status of a particular vocational course.

Issues of 'standing' in typical settings

Starting out from the initial levels of analysis – course/curriculum, education system and labour market – a typology of national settings is applied which cuts across these three levels. The following three types of national settings for relating education and work are distinguished:

a) *Type I: close relationship between education system and labour market, including a tracked system of education and a qualification structure which has direct relevance for occupational entry (Austria, the Czech Republic, Denmark, Germany, Hungary, the Netherlands).*

   Based on established standards of apprenticeship and full-time technical courses, these countries seek to enhance the quality and status of vocational education. The standing of vocational education is underpinned by regulations which make vocational qualifications a precondition for entry to skilled employment. This provides a certain advantage over secondary general education and partly even stimulates mobility from general to vocational tracks at upper secondary level (the Netherlands). The challenge, however, lies in the superior career prospects of graduates with both vocational and general certificates at upper secondary level and of higher education graduates.

b) *Type II: Loose relationship between education system and labour market, allowing for predominant school-based, broad vocational education and subsequent on-the-job training (Australia, Canada, Japan, USA).*

   Both the occupational specificity and the stratification of secondary education are at a low level, matching open labour markets characterised by large service sectors. Countries with this setting often provide comprehensive school patterns, with programmes of broad vocational education included, while entry to employment is facilitated by on-the-job training. Generic concepts of employability, with an emphasis on key competences, are dominating.

At the same time, there are efforts in such countries to involve employers in education and training, through development of school-enterprise partnerships and practical assignments.

c) *Type III: Varied relationship between education system and labour market, calling for coherent education and qualification frameworks (England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, Sweden).*

Attempts are made in this setting to overcome problems of transition from education to work arising from a diversity of institutions, courses and certificates in vocational education and to establish coherent structures across upper secondary education. A major problem addressed by several of these countries is the insufficient provision of work-based training, with inferior standards of apprenticeships and lack of opportunities of gaining practical experience within school-based programmes. An essential condition for solving this problem lies in promoting the co-operation with enterprises.

Improvement of 'standing'

For assessing the standing of vocational compared to general education and its prospect of improvement resulting from various measures, the initial model of three criteria is applied. In more specific terms, high 'standing' should be interpreted according to the following characteristics (which essentially relate to dual qualifications):

a) acquisition of key competences/ combining vocational and general education;

b) opportunity for access to academic and vocational higher education;

c) qualification for entry to (highly) skilled employment.

This set of characteristics represents an ideal-type model based on high-quality vocational education and linking up with general education. The 'standing' of vocational education in a given system may be assessed as 'high' (or equal to general education) given the following conditions:

a) if high 'standing' is achieved according to all three criteria (or characteristics);

b) if high 'standing' extends over a major part of upper secondary education;

c) if high 'standing' relates to public esteem.

Altogether, improvement of the standing of vocational compared to general education is a permanent aim which can only be approached by continuing enhancement and adaptation to new requirements.

References

Project references

Post-16 Strategies/ SPES-NET:

INTEQUAL/ DUOQUAL:

ULP/ home internationals project:

PAVE.

Post-16 Strategies / Leonardo da Vinci surveys and analyses project (1995-97).

Title: Finding new strategies for post-16 education by networking vocational and academic/general education and working life to improve the parity of esteem for initial vocational training.

Coordinator: Johanna Lasonen, Institute for Educational Research, University of Jyväskylä.

Partnership: A – Institute for Industrial Sciences (IWI) and Institute for Vocational and Adult Education Research (IBE); D – Institute for Technology and Education (ITB); F – International Centre of Pedagogical Studies (CIEP) and National Institute for Pedagogical Research (INRP); FIN – Institute for Educational Research (IER); N – Agder College; S – National Agency for Education; England and Scotland, UK – Post-16 Education Centre, Centre for Educational Sociology (CES) and Scottish Qualification Authority (SQA).

Reports on the major project results: Lasonen 1996; Lasonen and Young 1998.

SPES-NET / Leonardo da Vinci multiplier-effect project (1997-2000) based on Post-16 Strategies.

Title: Sharpening the post-16 education strategies by horizontal and vertical networking.

Coordinator: Marja-Leena Stenström, Institute for Educational Research, University of Jyväskylä.

Partners:

1. Institute for Industrial Sciences, Vienna University of Economics, Austria (A)
2. BIEF, Multidisciplinary Research Bureau, Louvain-la-Neuve, Belgium (B)
3. Danish Institute for Educational Training of Vocational Teachers, Denmark (DK)
4. Post-16 Education Centre, University of London, England (UK)
5. National Examination and Qualification Centre, Tallinn, Estonia (EE)
6. National Board of Education, Helsinki, Finland, (FIN)
7. National Institute for Pedagogical Research, Paris, France (F)
8. Institute for Technology and Education, University of Bremen, Germany (D)
9. Institute for Work and Technology, University of Flensburg, Germany (D)
10. Laboratory of Sociology and Vocational Education, University of Patras, Greece
11. Technical University of Budapest, Hungary (HU)
12. Agder College, Kristiansand, Norway (N)
13. Faculty of Education, University of Valencia, Spain (E)
14. Clydebank College, Glasgow, Scotland (UK)
15. Scottish Qualification Authority, Glasgow, Scotland (UK)

Report on the interim project results: Stenström 1999.

INTEQUAL / Leonardo da Vinci surveys and analyses project (1995-97).

Title: The acquisition of integrated qualifications for professional work and study – an assessment of innovative approaches in seven European countries.

Coordinator: Sabine Manning, Research Forum Education and Society (WIFO), Berlin.

Reports on the major project results: Brown and Manning 1998; Manning 1996; Manning 1997.

DUOQUAL / Leonardo da Vinci multiplier-effect project (1997-2000) based on INTEQUAL.

Title: Qualifications with a dual orientation towards employment and higher education – applying a pattern of comparative investigation across European countries.

Coordinator: Sabine Manning, Research Forum Education and Society (WIFO) Berlin.

Report on the interim project results: Manning 1998; Manning 1999.

Partners (I=INTEQUAL; D=DUOQUAL):

1. Berufsbildungsinstitut Arbeit und Technik (BIAT), Universität Flensburg, Germany (D);
2. Centre d'Etudes et de Recherches sur les Qualifications (CEREQ), Marseille, France (I);
3. Cooperativa Marcella, Lurago Marinone, Italy (D);
4. Department of Educational Research, Roskilde University, Roskilde, Denmark (D);
5. Faculdade de Ciências e Tecnologia – Ciências da Educação, Universidade Nova de Lisboa, Monte de Caparica, Portugal (D);
6. HIAK Akershus College, Bygdoy, Norway (I/D);
7. Institut für Bildungsforschung der Wirtschaft (ibw), Wien, Austria (I/D);
8. Institut Technik und Bildung (ITB), Universität Bremen, Germany (I/D);
9. Institute for Educational Research (IER), University of Jyväskylä, Finland (D);
10. Institute for Employment Research (IER), University of Warwick, England (I/D);
11. National Institute for Pedagogical Research (INRP), Paris, France (D);
12. Pedagogical Institute (P.I.), Ministry of Education, Athens, Greece (D);
13. Research Institute of Technical and Vocational Education (VUO_), Prague, Czech Republic (D);
14. SCO Kohnstamm Instituut, Universiteit van Amsterdam, The Netherlands (I/D);
15. Staatsinstitut für Schulpädagogik und Bildungsforschung (ISB), München, Germany (I/D);
16. Stockholm Institute of Education, Stockholm, Sweden (I/D);
17. University of Surrey, Surrey, England (I).

ULP (Unified Learning Project) / ESRC UK programme the learning society (1996-98).

Title: Unifying academic and vocational learning – Scottish and English/Welsh approaches.

Partners: Cathy Howieson and David Raffe, CSE, University of Edinburgh; Ken Spours and Michael Young, Post-16 Education Centre, Institute of Education, University of London.

Reports on the major project results: Raffe, Howieson et al. 1998a/b; Spours, Young et al. 1998.

Home internationals project / ESRC (1998 in progress).

Contents: Differences in the education and training systems of the four 'home countries' systems of the UK, focusing on the 14-19 stages.

Partners: David Raffe, Chris Martin, Linda Croxford and Karen Brannen, CSE, University of Edinburgh.

Reports on the major project results: Raffe, Fairgrieve et al. 1999; Raffe and Martin 1998; Raffe, Brannen et al. 1998.

PAVE / Leonardo da Vinci survey and analysis project (1997-99)

Title: Analysis of national policies with regard to improving the status and attractiveness of initial vocational education and training.

Partners: Anton Trant (coordinator), Jackie Branson, Diarmaid O'Donnabhain, Christos Frangos, Finbar Geaney, Denis Lawton, Raimo Mäkinen, Trudy Moerkamp, Eva Voncken, Päivi Vuorinen, Paddy Walsh.

Report on the major project results: Trant et al., 1999.

Bibliography

Arman G., Bergli T. et al., 1997. Integrated learning processes. *In:* Manning S., ed., pp. 18-48

Arman G., Höghielm R. et al., 1996. *"Growing with knowledge": the new upper secondary school reform in Sweden*. Stockholm: Institute of Education

Bremer R., Kusch W., 1996. *Fachhochschule qualification and vocational certification through a new route of double qualification in Germany*. Bremen: ITB; München: ISB

Brown A., 1996. *Attempting to create a 'middle pathway' between vocational and academic routes: a critical review of the introduction and implementation of General National Vocational Qualifications (GNVQs) in England*. Surrey: University of Surrey

Brown A., 1997. Possible role for synoptic assessment. *In:* Manning S., ed., pp. 49-80

Brown A., Moerkamp T. et al., 1997. Facilitating progression to higher education. *In:* Manning S., ed., pp. 81-129

Brown A., Manning S., eds., 1998. *Qualifications for employment and higher education: a collaborative investigation across Europe*. Hämeenlinna: University of Tampere (Ammattikasvatussarja; 18)

Dehnbostel P., Dybowski G., 1999. Forms and quality of learning, venues and organisation of training (Paper in preparation for Cedefop Research Report 2)

Durand-Drouhin M., 1999. *Thematic review of the transition from initial education to working life*. Working paper for the Second International Congress on Technical and Vocational Education (UNESCO, IIEP, Seoul, 26-30 April 1999

Eckert H., Kirsch J.-L., 1996. *The 'Vocational Baccalaureat' in France: between new forms of work organisation and democratisation of education*. Marseille: CEREQ.

Eckert H., Kirsch J.-L. et al., 1997. Tracing careers. *In:* Manning S., ed., pp. 130-175

European Commission, 1999. *Key data on vocational training in the European Union*. Luxembourg: EUR-OP

European Commission, 2000. *Key data on vocational training in the European Union. Young people's training*. DG EAC, Eurostat, Cedefop, OPOCE – FR, EN

European Training Foundation, 1998. *Key indicators: vocational education and training in Central and Eastern Europe*. Luxembourg: EUR-OP

Eurydice 1997. *Secondary education in the European Union*. Brussels

Frøyland E., Bergli T. et al., 1997. *The way forward to qualifications for employment and higher education for all: Reform '94 of upper secondary education in Norway*. Oslo: HIAK, Akershus College (Yrkespedagogiske Dokumenter and Rapporter; 25).

Hannan D., 1999. Transitions from education/training to work (Paper in preparation for Cedefop Research Report 2)

Hillier J., Oates T., 1998. *Parity of esteem – a surface effect or a deep cause of divisions?* (working draft)

Husen T., 1989. Integration von Allgemein- und Berufsbildung: eine internationale Perspektive. *Berufsbildung* / Cedefop (1), pp. 10-14

IBE, 1999. *Strategien zur Problemlösung für die berufliche Erstausbildung. Erster Teil: Situationsanalyse.* Zwischenbericht. Linz: Institut für Berufs- und Erwachsenenbildungsforschung.

Kämäräinen P., Streumer J., 1998. Curriculum development, new learning environments and transfer of innovations in Europe. *In: Cedefop, ed. Vocational education and training – the European research field.* Background report, Volume 2, pp. 155-182

Kirsch J.-L., Savoyant A. et al., 1999. Certification and readability of competencies (Paper in preparation for Cedefop Research Report 2)

Lasonen J., ed., 1996. *Reforming upper secondary education in Europe.* Publication Series B92: Theory into Practice. Jyväskylä: University of Jyväskylä, Institute for Educational Research

Lasonen J., Manning S., 1998. Analysing strategies and qualifications in two Leonardo research partnerships – issues of transnational research in collaboration. *In:* Mulder M., ed., pp. 1-7

Lasonen J., Young M., eds., 1998. *Strategies for achieving parity of esteem in European upper secondary education.* Jyväskylä: University of Jyväskylä, Institute for Educational Research

Manning S., 1992. *Darstellung und Analyse von Erfahrungen europäischer Staaten zur Gleichwertigkeit allgemeiner und beruflicher Bildung anhand praktizierter Regelungen und Bestimmungen.* Gutachten im Auftrag des Bundesministers für Bildung und Wissenschaft / Wissenschaftsforum Bildung und Gesellschaft e.V. ; Hrsg., Berlin

Manning S., ed., 1993. *Gleichwertigkeit allgemeiner und beruflicher Bildung – 5 Länderstudien. Equivalence of General and Vocational Education – 5 Country Studies* / Wissenschaftsforum Bildung und Gesellschaft e.V. ; Hrsg., Berlin

Manning S., ed., 1996. *Qualifications with a dual orientation towards employment and higher education: a comparative investigation of innovative schemes in seven European countries. INTEQUAL report I.* Berlin: Wissenschaftsforum Bildung und Gesellschaft e.V. (WIFO)

Manning S., ed., 1997. *Qualifications with a dual orientation towards employment and higher education: a collaborative investigation of selected issues in seven European countries. INTEQUAL report II.* Berlin: Wissenschaftsforum Bildung und Gesellschaft e.V. (WIFO)

Manning S., ed., 1998. *Survey on dual qualifications: results of the Leonardo projects INTEQUAL and DUOQUAL [online].* Berlin: Wissenschaftsforum Bildung und Gesellschaft e.V. (WIFO). Available from Internet: http://www.b.shuttle.de/wifo/duoqual/=survey.htm [first set up: 23 August 1998]

Manning S., ed., 1999. *Dually-oriented qualifications: a knowledge base related to the Leonardo projects INTEQUAL / DUOQUAL [online].* Berlin: Wissenschaftsforum Bildung und Gesellschaft e.V. (WIFO). Available from Internet: http://www.b.shuttle.de/wifo/duoqual/=base.htm [first set up: 14 August 1999]

Moerkamp T., Voncken E., 1996. *Dilemmas on the MBO route to higher education: double qualifications in senior vocational education (MBO) in the Netherlands.* Amsterdam: SCO-Kohnstamm Institute

Moura Castro C.de, Oliveira J.B.de, 1994. Convergence between training and education. *In:* Husén T., Postlethwaite T.N., *The international encyclopedia of education.* Second edition. Volume 11, pp. 6412-6416

Mulder M., ed., 1998. *Vocational education and training research.* Proceedings of the VETNET program at the ECER conference on 17-20 September 1998 in Ljubljana, Slovenia

Müller W., Shavit Y., 1998. Bildung und Beruf im institutionellen Kontext. *Zeitschrift für Erziehungswissenschaft*, 1 (4), pp. 501-533

Ni Cheallaigh M., 1999. Changing concepts of lifelong learning (Paper in preparation for Cedefop Research Report 2)

Niiniluoto I., 1992. Taito – kollokvion avaussanat. *In:* Halonen I., Airaksinen T., Niiniluoto I., eds. *Taito* [Skilling], (pp 5-9), Helsinki: Suomen Filosofinen Yhdistys

Oliveira D.T., Frazao L. et al., 1999. *Qualifications with a dual orientation towards employment and higher education in Portugal: the vocational courses of upper secondary education. Lisbon*: Universidade Nova de Lisboa

Onstenk J., Moerkamp T., 1999. Training for new jobs: contents, pilot projects and evaluation (Paper in preparation for Cedefop Research Report 2)

Paleocrassas S., Zacharia S. et al., 1999. *An overview of the Hellenic Integrated Multivalent Lyceum*. Athens: Pedagogical Institute

Patiniotis N., Spiliopoulou C., 1999. Reforms in upper secondary education in Greeece. *In*: Stenström M.-L., ed. *Reflections on post-16 strategies in European countries. Sharpening post-16 education strategies by horizontal and vertical networking*. Jyväskylä: University of Jyvaskyla, Institute for Educational Research (Working Papers; 9) (pp. 71-84)

Raffe D., Brannen K. et al., 1998. *Comparing Scotland, England, Wales and Northern Ireland: the case for 'home internationals' in comparative research*. CES, University of Edinburgh (submitted to *Comparative Education*)

Raffe D., Fairgrieve J. et al., 1999. Inclusion, academic drift and parity of esteem: a comparison of post-compulsory education and training in England, Wales, Scotland and Northern Ireland. Edinburough (Paper to European Research Network on Transitions in Youth, Oslo, September 1999)

Raffe D., Howieson C. et al., 1998a. The unification of post-compulsory education: towards a conceptual framework. *British Journal of Educational Studies* 46, 2, 99, 169-187

Raffe D., Howieson C. et al., 1998b. Unifying vocational and academic learning: issues from a comparison of England, Wales and Scotland. *In:* Mulder M., ed., pp. 45-53

Raffe D., Martin C., 1998. Variations within the mixed model: vocational and general pathways in post-compulsory education and training in England, Wales and Scotland. *In:* Mulder M., ed., pp. 35-42

Robinson P., 1997. *The myth of parity of esteem: earnings and qualifications*. London: Centre for Economic Performance, London School of Economics (Working Paper; 865)

Spours K., Young M. et al., 1998. Unifying post-compulsory education in England, Wales and Scotland: conclusions of the Unified Learning Project. *Unified Learning Project Paper 11*. University of Edinburgh and London

Stenstrom M.-L., ed., 1999. *Reflections on post-16 strategies in European countries. Sharpening post-16 education strategies by horizontal and vertical networking*. Jyvaskylä: University of Jyvaskylä, Institute for Educational Research (Working Papers; 9)

Stenstrom M.-L., Lasonen, J., 2000. *Strategies for reforming initial vocational education and training in Europe*. Jyvaskylä: Institute for Educational Research, University of Jyvaskylä

Stern D., Bailey Th. et al., 1996. *School-to-work policy. Insights from recent international developments*. Berkeley: Graduate School of Education, University of California at Berkeley

Tessaring M., 1993. Das duale System der Berufsausbildung in Deutschland: Attraktivität und Beschäftigungsperspektiven. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **26** (2), pp. 131-161

Thum-Kraft M., Jonke-Hauptmann E., 1996. *WIFI-Academies: Connecting learning and training: a new form of specialised and gen'ra'ised further education for skilled workers*. Wien: ibw

Trant et al., 1999. *Reconciling liberal and vocational education. Report of the European Union Leonardo da Vinci research project on promoting the attractiveness of vocational education (PAVE)*. Dublin: Curriculum Development Unit

Vicenik P., Lejcková K. et al., 1999. *Educational programmes with dual qualifications in the Czech Republic*. Prague: VUOS

Virolainen M., 1999. *Qualifications with a dual orientation towards employment and higher education in Finland: the case of the upper secondary education experiment*. Jyväskylä: Institute for Educational Research, University of Jyväskylä

Walsh P., 1993. *Education and meaning: philosophy in practice*. London: Cassell

Young M., 2000. Improving vocational education: Trans-European comparisons of developments in the late 1990s. *In:* Stenstrom M.-L., Lasonen J., eds. *Strategies for reforming initial vocational education and training in Europe*. Jyväskylä: Institute for Educational Research, University of Jyväskylä.

Abbreviations

A	advanced level (GCE programmes)
AHS	*Allgemeinbildende Höhere Schule*
AS	advanced supplementary level (GCE programmes)
Bac Pro	*baccalauréat professionnel*
BEP	*brevet d'études professionelles*
BHS	*Berufsbildende Höhere Schule*
BMBF	*Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie*
BMS	*Berufsbildende Mittlere Schule*
BOL4	Vocational training pathway at level 4 (from 1997)
BTEC	Business and Technical Education Council
BTn	*baccalauréat technologique*
BTS	*brevet de technicien supérieur*
CAP	*certificat d'aptitude professionelle*
CBS	National Bureau of Statistics
Cedefop	European Centre for the Development of Vocational Training
CEREQ	*Centre d'etudes et de recherches sur les qualifications*
CSYS	Certificates of Sixth Year Studies
CES	Centre for Educational Sociology
DUT	*Diplome Universitaire de Technologie*
EA	economic/administrative mbo courses
EU	European Union
EUROPROF	(acronym of Leonardo project)
FEDA	Further Education Development Agency
FRG	Federal Republic of Germany
G	Germany
GCE ('A' level)	General Certificate of Education (advanced level)
GCSE (A*-C)	General Certificate of Secondary Education (grades A* to C)
GNVQ	General National Vocational Qualification
GSVQ	General Scottish Vocational Qualification
HAVO	senior general secondary education
HBO	higher vocational education
HE	higher education
HIAK	*Hogskolen I Akershus*
ibw	*Institut für Bildungsforschung der Wirtschaft*
IHK	*Industrie- und Handelskammer*
ILWT	integrated learning and working tasks

IML	Integrated Multivalent Lyceum
INTEQUAL	'integrated qualifications'... (acronym of Leonardo project)
ISB	*Staatsinstitut für Schulpädagogik und Bildungsforschung*
ITB	*Institut Technik und Bildung*
IUT	*institut universitaire de technologie*
KMK	*Kultusministerkonferenz*
Leonardo	(acronym of EU programme)
LO	Norwegian Federation of Trade Unions
MAVO	junior general secondary education
MBO	senior secondary vocational full-time education
NC	National Certificate
NCU	National Coordinating Unit
NCVQ	National Council for Vocational Qualifications
NHO	Confederation of Norwegian Business and Industry
NVQ	National Vocational Qualification
OGY	trial programme
PETRA	(acronym of EU programme)
ROA	Research Centre for Education and the Labour Market
RUBS	school leavers survey
S	Social services and welfare MBO courses
SCO-KI	SCO-Kohnstamm Institute
SEAC	School Examinations and Assessment Council
STS	*sections de techniciens superieurs*
T	Technical MBO courses
UCAS	Universities and Colleges Admission Service
UK	United Kingdom
VBO	pre-vocational education
VET	vocational education and training
VWO / WO	pre-university education / university education
WIFI	*Wirtschaftsförderinstitut*
WIFO	*Wissenschaftsforum Bildung und Gesellschaft e.V.*

Certification and legibility of competence

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Abstract

This report looks at various aspects of the role that certification systems, understood in the broad sense, can play in the very different ways in which competences are recognised in enterprise or in the labour market. There is undoubted interest in these certification systems in the European Union. Faced with the 'maze' of education systems and the fact that the certificates that they award are felt to be unable to adapt to new qualification needs, the problem of identifying competences is raising increasingly urgent questions as regards certification systems. Being able to identify the learning acquired from occupational experience and providing the best possible match between individuals and production functions, while ensuring that they are still adaptable, and therefore more employable, seem to be the current expectations. The answers that the various systems are providing in this respect are examined below from both an institutional and a methodological point of view:

- *from an institutional point of view, the report looks at the role that the state has played in the past in constructing systems responsible for education and training and certification, and goes on to examine contemporary developments that are tending to make certification more independent from education and training with the result that skill identification is tending to make these skills independent from formal learning routes;*

- *this therefore raises new methodological problems. First, defining competences through performance standards raises the question of how and to what extent actual work can be taken into account. Second, the construction of assessment standards, analysed here using the accreditation of prior learning as an example, must include thinking about the nature of the competences that are being validated and the legitimacy of validation bodies.*

Competences are certified and recognised in different ways, depending on national traditions, but the procedures used in all cases have to address the same kind of problem: they must be precise enough to enable efficient adjustment and socially legitimate enough to pave the way for their general validity.

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Table of contents

1. Introduction 171
1.1 Why this topic? 171
1.2 Terminology 171

2. The gradual emergence of certification systems 172
2.1 History 173
2.1.1 A top-down construction 174
2.1.2 Plural state, enterprises and national reference frameworks 177
2.2 Recent trends 178
2.2.1 What is a 'credential effect'? 178
2.2.1.1 A credential market 178
2.2.1.2 What are the benefits of credentials? 179
2.2.2 Changing labour markets 179
2.2.2.1 Calling the traditional models into question 180
2.2.2.2 Incompleteness of the contract of employment and increased uncertainty 181
2.2.3 New qualification requirements 182
2.2.4 Different forms of knowledge 183
2.3 Current issues 185
2.3.1 Certification and exclusion 185
2.3.2 Legitimacy and legibility 187

3. Specifying standards 188
3.1 Occupations and performance standards 189
3.1.1 Domains of competences 189
3.1.2 Fields of competences 190
3.1.2.1 How specialised? 192
3.1.2.2 Theory and practice 192
3.1.3 Competence levels 193
3.2 Assessment: standards in action 194
3.2.1 The design of learning validation schemes 194
3.2.1.1 Validation of learning and conventional certification systems 194
3.2.1.2 Reference profiles and standards 195
3.2.2 The use of standards in assessment 197
3.2.2.1 Assessment methods 197
3.2.2.2 Assessors 198

4. Conclusion 199
4.1 Certification and recognition of occupational knowledge 200
4.2 Diversification of certification 200
4.3 A question of citizenship 201

Summary 201

References 204

Bibliography 209

1. Introduction

1.1 Why this topic?

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Major events in this area have included the OECD symposium on this issue in 1992 in Lisbon, the various works that Cedefop has published on national situations and the White Paper on the learning society – and in particular those parts of the White Paper that set out proposals for new forms of accreditation. Before the 1990s, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

Two questions helped to call this sequence into question:

a) Was too much emphasis being placed on the labelling of academic knowledge that lacked an immediately evident link with the actual knowledge used in the practice of an occupation?

b) In what ways could other forms of acquisition of occupational knowledge, reflecting the mutual expectations of jobseekers and job providers, but not forming part of institutional education and training systems, be recognised?

For these reasons, we felt that it would be interesting to propose a report entitled 'Certification and legibility of competence' to Cedefop. Part 1 looks at the issue of the increasing autonomy of certification systems and the different outcomes of this increasing autonomy in different countries, in particular as regards the reorganisation of the links between training and certification. This increasing autonomy has highlighted the question of skill identification and the need to rethink performance and assessment standards, an issue that is examined in Part 2:

- the link that occupational analysis and definition of performance standards has with education and training is examined using three types of reference: an overall occupational target, jobs described in varying degrees of detail and the occupational skills attached to these jobs;
- assessment issues are analysed from the point of view of the ways in which informal experience is validated, focusing on the construction of assessment criteria, their links with existing systems, the ways in which they are put into practice and on assessors themselves.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work. The documentation available on this issue varied from country to country, but there again our objective was not to conduct a comparative study. All these countries have a range of certification systems and any attempt to characterise them by their dominant system – diplomas in France, dual certification in Germany, NVQs in the United Kingdom – was problematic. This would have run the risk of presenting each country by its most firmly rooted characteristics and of disregarding various kinds of innovation. We therefore chose to approach the issue in a different way and to consider that a number of forms of certification, whose proximity has not been systematically shaped by national traditions, can be found throughout Europe.

1.2 Terminology

'Certification and legibility of competence': there has been a great deal of research into some of these notions that could be developed in a whole range of ways. The diversity and in some cases the contradictory nature of the definitions proposed, their proximity to other notions – such as recognition, validation, qualification, experience, etc. – which could at least partially explain them, bear this out. It therefore seemed of little use to propose yet another definition for terms that have already received a great deal of attention. Nevertheless, the fact that they are so difficult to place on a formal footing and their protoplasmic ability to find their way into issues involving

the links between training and employment, and to reshape these issues, bear witness to the current turmoil surrounding this field. These terms are therefore used in a broad sense, since the phenomena that they reflect are changing, subtle and part and parcel of wider-ranging debates. Some terminological precisions are needed, however, to explain some of the ways in which they are used in the following report.

Certification is used to mean the formal and official recognition of a person's occupational abilities. It seemed preferable not to determine the extent of this formal and official recognition too far, and merely to contrast it with domestic forms of recognition based solely on the agreement of particular individuals and to note that it provides a more global framework for the latter. Certification is therefore seen as a process and an outcome: a process that involves implementing standards and defining the criteria by which these standards are assessed, and an outcome resulting from these assessment procedures, whether or not they lead to the award of a qualification.

The use of the term 'credential' also needs further explanation: the concrete form that certification takes is expressed by a variety of terms – certificates, diplomas, credits, etc. A detailed study would be needed to understand and explain this variety. In the meantime, we opted in this report to use the general term 'credential' for these different expressions, and to use their particular names when circumstances so required. Moreover, classification, as defined in collective agreements for instance, is not perceived as certification as it takes account more of the qualities mobilised by a particular job. The difference between certification and classification is nevertheless tenuous and questionable in some cases and deserves a detailed study of its own, as its development raises problems. Leaving it out may well have been questionable, but including it would have been unrealistic.

The term 'skill' was unavoidable because it has so many different meanings and is used in such different ways in the worlds of education and training and work, representing an entity to which everyone gives meanings that are close enough to stimulate a debate and different enough to keep the debate going, in the same way that Binet defined intelligence as what was measured by his test, a skill here is what is identified by certification.

The term 'legibility' is frequently used by decision-makers and consultants, but has not been taken up – as far as we are aware – by academic language. It is part and parcel of those new terms – 'visibility' and 'transparency' are other examples – that are being used to suggest a different form of intelligibility. The growing extent to which they are used should be linked to the introduction of new forms of social rationale reflected, among other things, by the growth of standardisation practices in the production of good and services...but that would be another story.

2. The gradual emergence of certification systems

Judging by historical works, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment makes it impossible to reject this second hypothesis. The few references to certification in historical works show, moreover, a trend towards gradual appropriation by the state, accompanying the state's growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could – and can – intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. In these circumstances, therefore, it seems logical that occupational certification seems to be rela-

tively recent as a specific issue and that despite a common historic dynamic, it takes different forms, even within the same country, and is not moving in the direction of transnational harmonisation.

It would therefore seem that certification systems are becoming more independent and are no longer being considered as the completion and outcome of an educational process that Bertrand (1997), taking up Gordon (1993), breaks down into the following stages:

- definition of educational objectives
- design of education
- practice of education
- assessment of education
- certification
- recognition of certification on the labour market (Bertrand, 1997, p.5).

Four developments are now accentuating this tendency towards autonomy:

1. comprehension of the specific nature of a 'credential effect';
2. labour market changes;
3. new qualification needs;
4. different forms of knowledge and of ways of acquiring this knowledge.

Two issues are also examined since they reflect very topical questions:

a) the criticism of credentials, in the broadest sense of the term;

b) the construction of a single national reference.

2.1 History

The history of certification remains to be written, as does that of its impact on vocational training. The academic literature has covered the history of education and higher education and, in most cases, deals with certification only as an allied variable. To our knowledge, the only work that has set out to retrace the history of technical and vocational education qualifications is that of Guy Brucy (1998), concerning France. An outline comparative analysis has also been undertaken as part of a European 'Eurocertification' project (Céreq, 1998). Patricia Broadfoot (1996) has conducted a comparative historical study of assessment in French and British education which clearly highlights the role of certification.

Assessment processes have much to do with the construction and award of certification. Assessment is part of all areas of life: 'Assessment is a central feature of social life. Passing judgement on people, on things, on ideas, on values is part of the process of making sense of reality and where we stand in any given situation' (Broadfoot, 1996, p.3). This assessment has been part and parcel of educational processes throughout their history. Traditional learning was a long sequence of assessments that culminated in the production of a 'masterpiece' that provided free but necessary proof. The beginnings of certification can be traced back to the transition from assessment placed to some extent on an official footing to specified and formal assessment. While we tend to see certification only as the completion of an educational process, history shows that the reverse is more often true. Having specified what result was to be obtained, what should be taught and how its acquisition could be verified was then deduced therefrom.

The state tried, in this way, to impose its authority on social groups that had up to then functioned in a broadly independent way and that did not therefore necessarily feel the need to formulate certification strategies: they possessed the source of knowledge, had passed it on and recognised its acquisition by awarding a title. History also shows, however, that social groups have used certification to affirm their social and economic identity, often with state support.

In general, although with differences from one country to another, the trend has therefore

been for the state gradually to take responsibility for vocational training (for young people) and its certification in order to provide it with a national dimension and a national validity. The process by which it has done so started from the higher and moved down to the lower qualification levels. Over time, and more rapidly after the second world war in most countries, the norm assigned to certification and, therefore, to training was initially of a theoretical and then of a general type. It was the productive citizen who needed to be trained, thereby creating a distance with respect to purely practical norms connected with immediate employment.

2.1.1 A top-down construction

European societies had placed procedures for the identification of their elites on a formal footing at the latest by the beginning of the nineteenth century. This process involved education, recognised in some cases by the award of 'certificates', taught, depending on the country, in an essentially general way (Britain, Spain) or in a general and technical (France, Belgium, Germany) way (Brucy, 1998; Dore, 1997). Paradoxically, at a time when the industrial revolution was in full swing, the higher levels tended to remain academic and generalist – with a few notable exceptions: 'In France, there is the long standing tradition of the grandes écoles – Ponts et Chaussées (1715), Ecole Polytechnique (1794), Ecole Centrale (1828-29) (...) In Germany the Technische Hochschulen (now Universitäten) enjoy equal status, with the prestigious D. Ing. of Engineering being the special preserve of the T.H.' (Sanderson, 1993, p.55). The state's aim in setting up these schools was, among other things, to meet its need for military officers: 'This was so with the Ecole Polytechnique which has always produced generals as well as businessmen and politicians. Likewise at Charlottenburg the Prussian army supported science which could be used for military purposes' (Sanderson, 1993, p.55). In Belgium, it was in the second half of the nineteenth century that 'industrial schools and the first university chairs were set up to train managers for industry. The latter had close links with modern industry: metallurgy, chemistry, mineralogy, geology...(and) were largely supported by the state, especially during the depression (1870-1896)' (Alaluf and Vanheerswynghel, 1998, p.10). The education of the technical elite differed, however, in Britain: 'Britain's industrial strength lay in its amateurs and self-made men: the craftsman-inventor, the mill-owner, the iron-master...In this rise of British industry the British universities played no part: indeed formal education of any sort was a negligible factor in its success' (Ashby, 1961, quoted by Dore, 1997, p.14). On top of this strong ideology of the 'self-made man', the academic training of industrial managers came up, despite some attempts to change the situation, against the humanist university tradition. The Victorian state's attempts to impose new practices failed: 'the mechanics' institute movement from the 1820s was a failure. The civic universities were a noble expression of Victorian civic pride. Yet in their early stages Manchester and Durham were but deferential Northern reflections of Oxford' (Sanderson, 1993, p.55).

The ongoing vitality of the traditional corporations and guilds placed the main obstacle in the way of state intervention. This was particularly true for engineers. Engineering was taught at the universities of Glasgow and London from 1840. The profession did not, however, recognise the certification of these studies: 'it was to be several decades before the possession of a university degree helped by gaining formal exemption from the normal training requirements of the engineering institutions' (Dore, 1997, p.19). Training run by the profession had been established, however, in 1897 and it was not until 1970 that a higher education (university or technology college) qualification became an entry requirement for the engineering profession. Spain followed a similar route since reforms of its university tradition, strongly impregnated with Catholic and absolutist values, began only in 1845 on which date the state assumed complete control over universities. It did not, however, introduce technical subjects into courses: 'the main faculties were those that educated lawyers, doctors and teachers of the scientific and literary disciplines of secondary education. This policy continued up to the reforms of the 1980s' (Hernandez Diaz, 1998, p.38), with the

exception of the Polytechnic Universities set up in the wake of the 1970 reform (idem, p.54).

Certification and vocational training for middle-grade staff (middle managers, supervisors) were introduced in a different way. They were introduced into systems at a later stage. They led to many general outcries against state intervention: 'technical schools were not set up (...) in osmosis with but in opposition to the production world. They were structured according to logics other than those current in the social fields in which the knowledge that they proposed to impart was used (...) The establishment of technical schools to some extent removed this twofold power – training and certification – from the practitioners, so that it became the almost exclusive property of training professionals (...) The certificates that these schools award crystallise this ambivalence' (Brucy, 1998, p.57). They impose a different way of building on knowledge and involve an external assessment that does away with traditional methods without necessarily providing advantages, at least for the profession itself. In France, 'technical education of an elementary and middle level was sketched out during the eighteenth century. It was the Order of 25 February 1803 that genuinely organised the first school of arts and crafts in Compiègne' (Brucy, 1998, p.25). The certificates 'for elite workers' (idem, p.33) date, however, only from 1894. Their regulation set out the practical and theoretical organisation of the teaching of the Écoles pratiques de commerce et d'industrie (EPCI – practical trade and industry schools). The 'certificates for future foremen' (Brucy, 1998, p.45) came even later: 'the introduction of an official examination for the award of a certificate to students of the ENP (Écoles Nationales Professionnelles – National Vocational Schools) came relatively late (...) it was not until 1904 that an Order set out the list of examinations and their marking methods for all such schools' (Brucy, 1998, p.48-49). In Spain, and in as controversial a way, 'organised and structured vocational education unconnected with the education system and under the supervision of the Ministry of Labour' (Roure, 1998, p.26) was introduced from 1925: the technical institutes. These offered training for 'officers' and 'skilled' workers which was certified. In Britain, 'only towards the end of the (nineteenth) century did technical institutes begin on any substantial scale to provide some skilled workmen with a general basic understanding of mechanical and metallurgical principles which helped them to absorb new techniques' (Dore, 1997, p.18). It was not the state, but rather those structures representing the interests of what remained of the guilds and corporations, that imposed these institutes as a solution. This solution did not involve certification.

For the rest of the working population (manual workers) and in all the countries, the guilds and the commercial sector ran apprenticeship schemes in which it was enough to 'do one's time' without the outcome being certified. Attempts by a public power to interfere in vocational apprenticeship took place at relatively different times in the five countries being examined here – the latest being Britain. It was also training and certification for manual workers that generated the most controversy and disputes. The dual aim of state intervention in this field is also the most visible at this level: to break the monopoly of the old corporations over the vocational training of apprentices by making them subject to national rules administered by the state and to achieve the political objectives, stated in all the countries, of education for the masses. The reciprocal impact of training and certification is difficult to assess in this particular field. The introduction of the CAP (Certificat d'Aptitude Professionnelle – Certificate of Vocational Ability) in France in 1919 was an obvious attempt to 'humanise' the training of young apprentices by broadening what they learnt to include subjects that were not occupational. Its detractors criticised the differences in the 'skills considered necessary to practice a trade (...) in different regions (and) the very unreliable assessments of examination panels' (Brucy, 1998, p.63), ruling out the possibility of a single, national certification. A further fear was that assessment methods would call into question the quality of the training given by the employer: 'an employer whose apprentices suffered too many failures would be showing the world that he was unable to train workers' (idem). 'At this level,

the certificate fulfilled a dual function: it proved and it graded (...) supporters of certification were in one or other camp' (idem). Thus, 'traditional economic sectors and workers' trade unions were from the outset hostile to the development of technical education and this continued right up to the Second World War' (Céreq, 1998, p.39). This highlights the power struggles and ideological disputes about the aim of education and training and certification. Manual apprenticeship schools were nevertheless set up in 1880/81 and were assimilated with the public complementary primary education schools (under the responsibility of the Minister of Trade) which offered vocational education courses (Brucy, 1998) and were responsible for 'popularising' the CAP. Prior to the post-war period, however, making it compulsory for apprentices (but not as yet employers) to attend vocational courses as well did not have a great deal of impact. In Spain, the technical institutes set up in 1925 also certified apprentices but, until the mid-1970s, most manual workers continued to receive training that was not certified (Roure, 1998). In Belgium, state technical and vocational education was not organised until the end of the First World War. At the same time (1921), the main political parties launched their Ecoles Ouvrières Supérieures (Higher Workers' Schools) (the socialist Belgian Workers' Party) and the Central School for Christian Workers at Héverlee, which later became the Cardijn Institute (Alaluf and Vanheerswynghels, 1998), one of whose tasks was to train workers, partly for union functions. 'By the turn of the (nineteenth) century Germany already had an established system of vocational schooling to complement the training undergone at the workplace' (Schmidt, 1998, p.21), which externalised theoretical education, whereas well before that date the 'guilds (had) laid down detailed rules to govern apprenticeship, including some concerning the training to be provided' (idem, p.21). There had therefore been some schooling of apprentices. In Britain, 'it was not until towards the end of the nineteenth century, for example with the passing of a Technical Education Act in 1889, that organisations like the City and Guilds of London Institute were able to make arrangements for technical education and its certification, working with local councils' (Young and Leney, 1998, p.52). Certification was left to the initiative of a whole series of Examining Boards for which it was a business, but which attempted to develop alongside the professions.

As most of the examples illustrating the preceding developments show, certification is far from being no more than the consecration of a training route or the process by which a skill acquired elsewhere is recognised. Certification is one of the tools that our governments have used to regulate their education and training systems. The recent example of the national qualifications system in the United Kingdom offers further proof of this: the development of National Vocational Qualifications (NVQs) has been grafted onto the existing systems that it was attempting to call into question, like the stranglehold of teachers, and educators in general, over certification and training. For many, the new qualifications have remained empty shells – i.e. with no candidates – but their mere existence and the vigour with which the government has tried to push them forward have led to major changes in the structure and content of the supply of training in the United Kingdom. 'So it became an article of faith that awarding enough vocational certificates would somehow transform the nature of the UK economy' (Wolf, 1997, p.39). This has nevertheless brought about a far-reaching reform of the British system and made the state responsible in a field from which it had up till then been largely absent. This intervention had become necessary, as Hilary Steedman (1996, p.16) stresses: 'The fact that low-level qualifications go together with mediocre quality helps to explain why enterprises settle for standardised mass production, encouraged by the low-level qualifications of their labour force, and why there is little chance of better qualifications equating with high quality unless training infrastructure is modified at a national level'. While the reform was keen at the outset to keep its distance from theoretical and general education, recent developments seem to commit the system to the same path as that taken by other countries at different times in their past. The developments illustrated above also highlight the permanent tension between two conceptions of cer-

tification and vocational training: specialised knowledge geared towards employment and immediate activity or broader knowledge with a better theoretical basis and including aspects of general culture. This tension is also to be found in subsequent developments within, among others, continuing training.

2.1.2 Plural state, enterprises and national reference frameworks

In most of the countries in which it has been most heavily involved, the state – as well as the other players who have tried to extend the academic or theoretical and classroom basis of vocational training (and to make it compulsory) – have encountered resistance. For the state, this resistance has not just been external but internal as well. In most cases, the conflict has been between ministries working with the production system (trade, industry, employment, labour) and ministries involved in 'mass' education (public education, education). In general, the measures introduced have tried to some extent to break the traditional supremacy of enterprises over the construction and recognition of qualifications, with the result that enterprises have been unable spontaneously to support reforms. In a relatively paradoxical way, however, bearing in mind their different histories, the five national systems have looked for and managed to establish, at different times, a common reference framework for national certification placed under a single authority.

In France, in the nineteenth and at the beginning of the twentieth century, diplomas were created under the authority of the powerful Technical Education Division of the Ministry of Trade (which had several names during that period). They were administered, however, especially the CAP, during the initial years of its launch, by the Departments. The stated objective was to bring certification and training as close as possible to the needs of local employers. From 1880 onwards, teachers were heavily involved in the construction of these certifications, although they were for a long time in a minority on examination panels. Little by little, reforms changed the panorama of national diplomas, strengthening the Jacobin management of vocational certification, but also the numbers of teachers involved. The standard was single and national. Under laws passed in 1942/3 only state institutions (those of the Ministry of Trade) were entitled to award national diplomas. As these various developments took place, responsibility was increasingly passed to the state with the Ministry of Education (or its equivalent at that time) taking up this responsibility rather than the Ministry of Trade and Industry. The Fouchet reform of 1963 gave the Ministry of Education responsibility for vocational and general education (Brucy, 1998). This is still the situation today. In Germany, the introduction of free trade at the beginning of the nineteenth century, which marked the end of the supremacy of the guilds, was the turning point in the system's development. Thereafter, various commercial codes sought to regulate the conditions under which apprenticeship was given. The '1897 Trade Regulation Code granted autonomy to the chambers of crafts in matters relating to apprenticeship. In 1925, the first formal regulatory instruments were passed on vocational training in the industrial sector. From the 1930s at the latest, these instruments have contained descriptions of occupational profiles, rules for the conduct of examinations and directives on the award of final certificates' (Schmidt, 1998, p.21). Since 1964, the dual system has been the basic reference for the certification of vocational training. Its certification and training standards are laid down by trade at national level. The similar timings of these French and German developments are interesting to note, as are those of Spain and Belgium. In Spain, the 1970 General Education Law (LGE) integrated vocational training into the education system (Roure, 1998), with a single certification that was overhauled in 1994 to become the 'Títulos profesionales'. Rationalisation also took place in Belgium (Wallonia) and it was by 1970 at the latest that all general and vocational education, apart from that for small enterprises, was placed under the authority of the Ministry of Education with a single certification. Similar processes came much later in Britain. A national curriculum for compulsory education and a new qualification structure, the National Vocational Qualifications, were introduced towards the end of the 1980s and the

beginning of the 1990s. The system was unified in 1997 with the creation of the Qualifications and Curriculum Authority (QCA), placed under the authority of a single ministry in charge of both education and employment. Although processes similar to those of the other countries started much later, Britain has taken its institutional and organisational changes much further.

Paradoxically, at the same time, in some of the countries where centralisation had been achieved much earlier, certification systems are now diversifying. The compromises of the past, resulting from power struggles and negotiations, are being shaken up. In most cases this has been caused by the tension that underpins the various conceptions of certification: this tension necessarily brings up the notion of types of certification said to be closer to immediate occupational activity. This can be seen in France and Spain where the state itself is playing a part in this diversification by introducing particular kinds of certification for adult jobseekers or employees: Ministry of Labour qualifications in France, Certificados de Profesionalidad in Spain. Based largely on the principles used to construct the British NVQs, these certifications use other methods of assessment (see below). Pressures for new negotiations are therefore increasing.

Analysts are still needed, however, for the recent history of certification. Other developments also need to be studied more closely. At the beginning of the 1970s, in Germany, the largest national lifelong learning association (the Volkshochschulverband) launched a whole programme to design certification for the training that it offered (Tiegens et al, 1974). Apart from modern language certificates, however, this programme was not followed up.

In another connection, enterprises, or rather industries, are trying to formalise qualifications that they are manifestly prepared to certify. In France, for instance, the industries are constructing their own certificates of vocational qualification (CQPs) and using them to certify their employees' continuing training. In Germany, at the initiative of employers, post-Abitur (the upper secondary certificate, leading to higher education) certified training schemes started to appear for young people at the beginning of the 1970s. 'In addition to the continuing establishment of vocational schools, other forms of dual training course are currently being developed in the higher education sector in Germany. They lie somewhere between traditional training in the dual system and study at a (specialised) higher education institution' (Krekel et al, 1997, p.281). The existence of these 'intermediate' qualifications, which are not in fact intermediate, is undoubtedly calling into question the architecture of certification and the award of jobs in enterprise.

Some of the past ways in which our present systems have developed are being echoed by current concerns about the management of our systems. They may help us to define and possibly to resolve current problems in different ways.

2.2 Recent trends

The increasing autonomy of the certification system has been bolstered by relatively recent dynamics that have given the 'credential' an increasingly important intrinsic quality with respect to a labour market marked by a growing mobility and that point to the need to diversify the ways in which this credential can be obtained, thereby helping to detach it from the training system.

2.2.1 What is a 'credential effect'?

The work of economists makes it possible to pinpoint a credential market, irrespective of the training conditions in which these credentials have been acquired. Various surveys of the integration and mobilisation of the labour force confirm that those who possess a credential have an advantage over those who do not – even when their specialism, length of training and occupational experience are the same.

2.2.1.1 A credential market

Economists have highlighted the existence of a 'credential effect'. The signal theory (Spence) and the filter theory (Arrow, 1973

183

provide a basis for this. While works based on the theories of human capital evaluated the return from the training investment on the basis of the number of years that people had devoted to this training, these two authors showed that the possession of a credential had a specific effect, acting as a signal on the labour market and for society in general. There is therefore a 'market of "credential acts", i.e. certificates and diplomas linked to formal education' (Béduwé et al, 1998, p.5). According to Vinokur (1995, p.152) the originality of a credential economy lies in the following: 'all the analyses surveyed here assume that the education system (or the education services market) and the production system (or the labour market) are independent, the former (...) producing the skilled work purchased by the latter. These economic analyses diverge: on the one hand, about the relative weight accorded to the two functions of the education system, i.e. educating and certifying and, on the other hand, about the competitive or non-competitive nature of labour markets (and therefore education services). The human capital theory, constructed in the United States at the beginning of the 1960s, masks the certification function of the education system and focuses only on the function of imparting knowledge or production practices, and assumes the labour market to be competitive. Qualifications have historically been taken into account in economic analysis as a result of the rejection of both of these hypotheses:

- the main function of the education system is to certify, i.e. to "filter". By awarding diplomas, it demonstrates the existing production abilities of workers and thus supplies the information needed to make a competitive labour market transparent;

- the function of the education system is to educate and certify, but the markets are not competitive; the diploma is a "barrier to entry" into jobs'.

In this context, the author points to the hypothesis of a reversal of values in which the vocational training system would be steered by a system of certification that would be completely detached from it. Irrespective of this hypothesis, the interest of this approach lies in the fact that it proposes a rereading of the various works analysing the relationship between training and employment by asking whether certification has a specific effect that cannot be confused with that of training.

2.2.1.2 What are the benefits of credentials?

The statistical data available at European level corroborate the existence of a 'credential effect'. In France, data on the occupational integration of young people demonstrate the link between the possession of a diploma and transition to employment (Martinelli et al, 1999). In Germany, unemployment seems to be most widespread among people whose vocational abilities have not been certified (Buttler and Tessaring 1995; Möbus and Verdier, eds., 1997). Comparing the results from different countries is problematic, however, bearing in mind the problems raised by different nomenclatures and the lack of comparability of the procedures that they cover (Duru-Bellat et al, 1997). The establishment of surveys along the lines of the 'Labour Force Survey' (Murray and Steedman, 1998; Kirsch, 1999) is therefore a major step forward since such surveys provide a more accurate picture. It would therefore seem, all things being equal, that people who possess qualifications have an advantage over people who do not possess them (Scherer, 1999). This variable needs, however, to be heavily weighted by considerations relating to hierarchies of specialisms and training levels, on the one hand, and to the possession and length of job experience, on the other hand, using ratios about which little is known and which vary greatly depending on the ways in which the labour market functions.

2.2.2 Changing labour markets

The role that certification plays in the labour market can be tackled from two angles. The calling into question of the distinctions traditionally drawn between different forms of labour market generally related to particular national situations provide a first angle. The nature of the contract of employment, and in particular its incompleteness, provides a sec-

ond angle. In both cases, certification becomes more important:

- it makes it possible to signal, using a formal code comprehensible to both jobseekers and job providers, the qualities of people who are increasingly mobile in increasing numbers of enterprises, which is a very important factor as regards the free movement of workers in Europe (Bjørnavold and Sellin, 1997). This signalling concern is especially great as this mobility may, much more so than in the past, take the form of breaks in employment due to contractions of internal and professional markets (Ministry of State for Women's Rights and Vocational Training, 1999);

- it becomes a reference that is more stable than those previously represented by task or job descriptions which, because of the need to adapt to rapid changes in production constraints, are increasingly variable.

2.2.2.1 Calling the traditional models into question

Vinokur (1995) stresses that the theory of human capital masks the function of certification in that it assumes that people are fully and completely informed about the labour supply and demand and in that 'the quality of work is a direct function of the cost of education and therefore, for a given educational technology, of its duration' (Vinokur, 1995, p.153). Marsden (1989) notes, as regards this model, that there are in effect situations of incomplete information corresponding to three modes of operation of the labour market: professional market, internal market and casual market. This raises questions about the nature and function of certification as regards each of these markets:

- in a professional market, certification is important and strongly controlled by members of the profession, 'professional markets have a number of key features. The first is the establishment of quality standards concerning the combination of the skills acquired and the level achieved by those trained for a given situation. The second is that the content of jobs is fairly uniform from one enterprise to another. These two characteristics ensure that qualifications are transferable, which is a key characteristic of professional markets. An employer recruiting someone from a market of this kind wants to know about a worker's training, the level that they have achieved and their occupational experience' (Marsden, 1989, p.223);

- certification acts as an entry filter in an internal market, and is then subject to individual forms of recognition based on nonstandard signals or on training specific to an enterprise;

- an official certification, rather than nonstandard signals, is of particular value in a casual market (Stoeffler-Kern and Tchibozo 1999), bearing in mind that 'casual markets operate with little regulation because of the low level of investment in training that is required and the fact that jobs lack specific technical features' (Marsden, 1989, p.232).

In the light of the most recent works, thinking is also moving in two directions:

1. the first is a result of acknowledged changes in national markets (Hancké, 1998; Guergoat, Marchand et al., 1999). Whereas the main feature of the French market was the importance of the internal market and main feature of the British model was the importance of the professional market, both are tending to be deregulated (Bertrand, 1997), or even to be delegalised (Supiot, 1994). At the same time, the German system is retaining, with increasing difficulty, the characteristics of a professional market and is seeing increasing numbers of people continuing their education and a growing gap between the field of the certified qualification and jobs held, while the social reality of the 'Berufsprinzip' is in doubt (Beicht et al., 1997). 'We consider that the risks with which the dual system will be faced in the future lie less in its inability to react to short-term or demographic developments than in the gradual withdrawal from the dual system, on the one hand, of a propor-

185

tion of enterprises which see more efficient and less expensive ways of covering their future qualification needs and/or, on the other hand, of seekers of training who consider that training options other than those within enterprise offer them better job and career prospects' (Koch, 1998, p.45);

2. more detailed analysis of the forms taken by labour force mobility and turnover makes it necessary, moreover, to introduce the notion of employment systems: 'theoretical work on the notion of employment systems provides an alternative conception of the movement of the labour force which appears to be structured by different modes of management forming part of a societally constituted space. In this context, analysis of the role of enterprises in the integration process makes it necessary to study the relationships between the ways in which young people and beginners are mobilised, on the one hand, and the ways in which the labour force is managed and mobility is institutionalised within integration schemes, on the other hand' (Moncel, 1999, p.250). This then highlights past developments, sectoral and enterprise approaches and local forms of labour force management in which certification assumes different distinctive values, whose importance varies, which have more meaning with respect to the production system than the education system and involve different balances between officially validated certification and more internally generated forms of recognition linked to experience.

2.2.2.2 Incompleteness of the contract of employment and increased uncertainty

'The incompleteness of the contract of employment, more generally called "radical uncertainty" or "qualitative uncertainty", reflects the idea that labour power cannot be assimilated with goods whose properties are completely specified. This means that the contract of employment does not cover the delivery of work as a product, but the provision of labour power. The specific nature of the employment relationship is that it includes two separate operations: the signature of the contract – the exchange – and the provision of labour power following the exchange...The incompleteness of the contract of employment makes it necessary to introduce rules to assess individual behaviour and to define the methods of the exchange' (Reynaud, 1988, pp.158-159).

In this context, certification specifies labour power, the use to which it can be put by the employer and the expectations that the employee may have of it, in keeping with one of the rules discussed above. The use of this rule has been studied, in particular from the point of view of its mobilisation in agreements intended to provide a framework for relationships between the social partners in the sectors (Jobert and Tallard, 1997; Aventur and Möbus, 1999).

As a supplement to this current usage, it is interesting to note, following Supiot (1994), that this rule is rooted in different traditions that can be related to the different philosophies of certification:

- a German tradition which considers the employment relationship as a 'situation of personal belonging to a community (p.18)...Thus, the personal element of the employment relationship is integrated into the definition of the employment contract through the notion of personal subordination which thus differs from the French notion of legal subordination. This idea of personal subordination is linked to notions such as the duty of loyalty of the employee and, its counterpart, the duty of care of the employer' (p.29). In this context, the possession of a qualification provides proof of identity of belonging to a group;

- the situation in the Latin countries has more to do with the romanist tradition and 'labour law in these countries has been dominated by the predominant role of the public power in regulating the employment relationship'. The contract of employment 'triggers the application of a systematic set of provisions, irrespective of the will of the parties to this contract' (Supiot, 1994, p.30). The reference to qualifications in collective agreements discussed above falls into this context;

- the situation in Britain is also shaped by the romanist tradition, but 'derives its legal force from the notion of the contract of services, set out in common law, which gives the provisions of collective agreements a legally binding force... This incorporation is not linked to an explicit reference to the collective agreement by the individual contract' (Supiot, 1994, p.29). The qualification is thus perceived from a functional point of view, attesting that individuals are able to perform in the ways that are expected of them.

Current labour market changes, in particular the increased stress on worker mobility, point to the fact that certification is increasingly being called upon to provide this function, as it is replacing internal forms of job allocation or occupational advancement that were based on the existence of a relatively permanent labour collective within a stable labour organisation in the enterprise. This is clearly stated in an OECD report (Bertrand and Durand-Drouhin, eds., 1996): 'The ideal system of vocational certification is one which identifies, for the employer, the individual corresponding to the job on offer. If school or practical education has already provided the skills needed to carry out a particular type of work, the employer is able to save valuable resources which would otherwise have had to be channelled into this training; the new employee is more productive, which the employer recognises by paying him a bonus (wage differential)' (Steedman, 1996, p.32), or 'the interest of certification lies in the fact that it forms a credible reference that can be trusted by all the players concerned, in a given area of mobility' (Campinos-Dubernet, 1996, p.124).

2.2.3 New qualification requirements

In a context of increased mobility the new forms of labour organisation made the use of traditional references to situate individuals more difficult, since an identified job characterised by a relatively stable content of activity can no longer be seen as a predominant model (Besucco-Bertin etal, 1998). There has been a reversal of values that has emphasised workers' initiative and autonomy, whereas in the past workers were required to apply the prescriptions that had been specified to them as strictly as possible. These new conceptions are leading to new ways of expressing the quality of work and of assessing this work, with respect to which the notion of competences is often used. The traditional methods of certification, represented by the diploma for the European Commission, are therefore raising questions as they give out signals that are not geared to the requirements of the current production system that mobilises new forms of knowledge that are acquired by different rules.

For the European Commission (1995), these new requirements are a result of three major upheavals that society has had to face: the information society, internationalisation and scientific and technical knowledge. Bertrand (1997), reviewing the analyses conducted from this point of view, proposes the following summary:

'It is generally accepted that these developments have had the following impact:

- less job security and a less certain correspondence between job skills and workers' qualifications;
- the need for a periodic updating of knowledge and skills, as the qualifications acquired from initial education may not be enough to support career development throughout life;
- the need for a higher standard of general education which should in particular enable a broader understanding of the professional environment and greater adaptability;
- a new emphasis on a set of skills that are not technical: relational abilities, communication and team-working, problem-solving, autonomy, etc.' (Bertrand, 1997, p.94).

This problem goes beyond Europe, and the same kind of concerns can be seen in the United States: 'the Departments of Labor and Education have intensified their commitment to the development of a national system of

voluntary skill standard and certification. Most recently, the Administration introduced and the Congress passed the "Goals 2000: Educate America Act". This act underscores the need to strengthen the connection between education and employment, specifically through the establishment of a National Skills Standard Board. This Board would ensure a framework for the development and implementation of a national system of voluntary partnerships which have the full and balanced participation of business, industry, labour, educators, and other key groups.

For decades, America has held the competitive advantage in the world marketplace on the basis of superior mass production. Now, we find ourselves in a new economic environment where this track record is no longer sufficient to ensure our continued success. Today, there is increased emphasis on quality, variety, timelines, customization, and convenience. Furthermore, with the increased mobility of capital and technology, it is easy to replicate the factors of production anywhere in the world, with one exception – workforce skills. The skills, adaptability, creativity and know-how of American workers must be the foundation for our continued competitiveness. Our problem lies in the lack of connection between the skills needed in the workplace and the skills imparted through education and training. We are further hindered by the limited range of nationally recognised credentials; these are usually reserved for the college educated with few options for the 75 percent of Americans who do not obtain a four-year degree.' (United States Department of Labor, Employment and Training Administration).

A set of new qualities through which working situations can be analysed and individuals assessed is therefore emerging (Mandon and Sulzer, 1999). 'Adaptability, mobility and flexibility are becoming the key professional values. The economy needed a key concept to cover this situation: competences seemed more relevant than qualifications' (Bellier, 1998).

This explains why two extremely widely used terms (Commissariat général du plan, 1978; Rope and Tanguy, 1994) – used in a relatively indiscriminate way in everyday language or according to complex codes in academic discourse – have been crystallised in opposing systems of representation (Colardyn, 1996), corresponding to different ideological and political options.

Taking account of these new competences raises questions about the ways in which they can be acquired and recognised, an area in which the traditional certification models are felt to be inadequate. 'In most European systems, diplomas are designed with a view to filtering out at the top the elite which will lead administration and companies, researchers and teaching staff. In certain countries, they are even the quasi-absolute reference points for assessing competence, which makes it a powerful incentive to pursue long-term studies and to take one's chance in very selective courses. Moreover, a worker's occupational status is in many countries defined by the diploma held. This link between qualification and status, however logical it may be, accentuates the internal lack of flexibility of the labour market...This is not, of course, to say that the paper qualification is not a valid route...But in parallel with this, we need to make the best use of skills and abilities irrespective of how they were obtained and to enhance everyone's potential by catering more closely for the needs of the individual, business and industry. What is needed is a more open and flexible approach. Such an approach should also encourage lifelong learning by allowing for and encouraging a continuing process of skill acquisition' (European Commission, 1995, pp.33-34).

2.2.4 Different forms of knowledge

Taylorist forms of organisation and the principles of rational organisation of work assumed that occupational knowledge would not exist in the long-term as it would have to be transformed into applied theoretical knowledge. The transformation of forms of production rationalisation (Kirsch and Peyrard, 1991) have called this view into question. The result has been to open up three types of thinking about the nature and acquisition of knowledge that constantly raise the question

of the assessment and recognition of this knowledge:

1. the first involves characterising the different forms of knowledge brought into play by the performance of a job;

2. the second raises questions about the different conditions under which this knowledge can be acquired and recognised;

3. the third considers that we need to move away from the model according to which there is only existing exogenous pre-existing knowledge, to take account of new knowledge, constructed in situations, generally in a collective way.

Various works claiming to be rooted in the theories of knowledge developed by Habermas, in particular his critique of scientism, have helped to break away from the view of a single form of knowledge. They offer various typologies of knowledge in general and of knowledge mobilised by jobs in particular. Bjørnavold (1997, pp.62-63), taking up the proposal of Kvale (1993), therefore proposes three kinds of knowledge:

a) dogmatic knowledge, derived from God or from a divine authority, whose validation is based on forms of revelation that lie outside our sphere;

b) objective knowledge, derived from nature, which may be assessed by objectively-based methods (multiple-choice tests, for instance);

c) prescriptive knowledge, created and defined by society, whose assessment makes it necessary to judge the 'cognitive process' and not the 'objective cognitive product'.

To the extent that certification is a social construct (Tanguy, 1991), it seems normal to take account of the proportion of prescriptive knowledge contained in professional knowledge. In some ways, this dimension was recognised in the traditional education system, since it imparted, alongside objective elements of technical mastery, cognitive and behavioural abilities with a more social bent, such as punctuality, obedience and basic communication skills. It is the nature, however, of the abilities passed on in this way that has changed.

Several proposals of fields of knowledge that may be assessed and certified have therefore been put forward. The French system thus differentiates between knowledge, know-how and know-how-to-be (Pinel, 1998) whereas the European Commission differentiates between:

- basic knowledge – languages, reading and writing, arithmetic, etc. – considered as 'the foundation on which individual employability is built' (European Commission, 1995, p.31);

- technical knowledge which 'is knowledge which permits clear identification with an occupation... Within this framework of knowledge, certain "key skills" are central to a number of different occupations and (are) therefore essential in order to be able to change jobs' (p.32);

- social aptitudes which 'concern inter-personal skills, i.e. behaviour at work and a whole range of skills corresponding to the level of responsibility held, such as the ability to cooperate and work as part of a team, creativeness and the quest for quality' (p.32).

With respect to this first type of proposal considering the diversity of knowledge, thinking that focuses more particularly on tacit knowledge, that Bjørnavold (1997) and Lam (1998) attach to Polanyi's work on the organisation of learning, introduces two new elements:

1. the first consists in approaching the acquisition of knowledge as a contextual practice. 'The key characteristic of knowledge acquisition as a contextual activity is one of defining a process that we call "legitimate peripheral participation". In using this term, we would like to draw attention to the fact that the learner is inevitably part of a community of practitioners and

189

that the mastery of skills and knowledge requires newcomers to commit themselves to full participation in the socio-cultural practices of a community...An individual's intentions from the point of view of learning represent an undertaking and the meaning of learning is configured by the process that leads to full participation in the socio-cultural practice' (Lave and Wenger, quoted by Bjørnavold, 1997, pp.66-67);

2. the second distinguishes learning as the incorporation of existing knowledge from learning as the creation of new knowledge that Lam (1998, pp.4-5) presents as follows: 'Our analysis focuses, in particular, on the education and training system, and the types of labour markets and careers as key societal institutions in shaping the patterns of work organisation and the knowledge base of the firm. The education and training system contributes to the social construction of "knowledge", and determines the extent to which this is used as a basis of qualification, work status and job boundaries. As such, it shapes the relative status and importance of different types of knowledge, and the nature of their interaction within organisations. The types of labour market and careers determine the locus of learning, the incentives for developing different types of knowledge, and define the boundary and social framework within which individual learning interacts with collective learning'.

In the same spirit, Benarrosh (1999) criticises the notion of skill transfer based on the idea that skills acquired for a given occupation can be re-used in an identical way in a different occupation. On the basis of a study of retraining of unskilled workers, she notes that skills change as a result of the need to tackle the problems entailed in the new job.

This acknowledgement that permanent knowledge creation is necessary can also be linked to the acknowledgement of a transformation of production methods for goods and services, and more particularly these latter, since they increasingly elude a principle of predetermination and are part and parcel of a model of 'co-construction' by seekers and users (Reboud, ed., 1997).

2.3 Current issues

2.3.1 Certification and exclusion

Certification excludes! This is one of the leitmotivs of the detractors of national certification systems. History would tend to prove, however, its role in social advancement. Certification made it possible for the middle and working classes to occupy occupational and social positions from which they had up to then been excluded. People are now saying that the 'credential effect' on the contrary entails exclusion. What are the major changes that could have reversed its previous function in such a total way? The controversy seems to lie in that duality that shaped the construction of certification systems in the past: immediate proximity to employment or wider, more theoretical and more encompassing knowledge?

Since they are based on forms of recognition that are said to be academic, some people have felt that diplomas had more to do with social selection and exclusion than with the signalling of people's occupational capacities: 'an essential process of social selection of those possessing productive abilities rather than proof of skills acquired' (Arrow, 1973, p.193, quoted by Vinokur, 1995, p.155), diplomas 'will be judged not as such, with respect to the human capital that they are supposed to reflect, but as a "container" allowing a degree of selectivity and comparability of young people who have successfully passed the training course' (Dupray, 1999, p.141). In this context, the traditional certification systems are more likely to make social stratifications more rigid than to enable individuals to have the socially and economically useful skills that they possess endorsed. The European Commission (1995) seems to reflect this point of view when it writes that: '...society "locks out" in this way much talent which is frequently unconventional but innovatory and that it therefore produces an elite which is not truly representative of the available human resource potential' (p.33).

This places two models in opposition (Bellier, 1997):

1. certification based on selective and elitist approaches, the most tangible manifestation of which is the reference to academic knowledge, that helps to strengthen and increase social segmentation;

2. certification intended to highlight and identify individuals' aptitudes, thereby helping them to achieve a recognition from which they are currently excluded and promoting their integration by enabling, at a collective level, a fairer and more efficient use of human resources.

Two main types of proposal are being put forward in this respect:

1. the first are intended to adapt existing systems and propose various forms of individualisation of these systems based on modularisation (Sellin, 1994) and recognition of prior experiential learning, but continue to respect existing socially recognised standards;

2. the second propose alternative systems calling into question established standards in a more or less fundamental way:

   - conversion of the norm, an example of which is the accreditation system proposed by the European Commission;

   - limited application of the norm, i.e. the establishment of certifications valid in restricted areas such as an industry, an enterprise or a geographically limited area;

   - abolition of the norm. The skill review approach in France reflects this trend, since this review was introduced as a way of finding a kind of signalling that makes it possible to meet the market's immediate needs. In practice, it seems more appropriate in this case to speak of a shift of the norm from the respect of objectives to the respect of procedures, leading to the proliferation of bodies responsible for defining formulation criteria, implementing practical methods and following up individual strategies moving along these lines.

Some of these methods are not exclusive, with the result that it is possible to find a whole range of combinations that can reconcile very different perspectives. Some references 'structure combinations of skills significant with respect to jobs that are much more contextualised than those that have been used to draw up the qualification criteria. Even though they contain elements common to certifications attesting to a "qualification", their combination applies to more restricted spaces and is based on immediate practicability. This information is particularly useful for employees or jobseekers whose experience has never been certified. For some people, this is a first step towards qualification' (Charraud, 1999, p.5).

This seems to be pointing the way towards an ideal model enabling people to build up their own certification routes by using the different existing schemes which would also offer modular principles of equivalence with one another in order to promote procedures of accumulation and progressive access to certification.

While the intention is praiseworthy, some limits need nevertheless to be outlined. First, there is a need for a full and complete information model, as discussed above, and the ability of people who are not socially well integrated to 'surf' the certification network raises particular doubts. Second, systems could well have a cumulative effect likely to reinforce the obstacle of gaining a credential presents: for instance, in France, industry certification seems to be used in some cases as a second filter for the holders of diplomas in the corresponding specialism. There is therefore a major risk of problems that make it necessary to set up supervisory bodies and methods. Similarly, in the dual system, there is a hierarchy of specialisms that is reflected by the initial school education level that is required to gain entry into them: bank training is reserved for holders of the Abitur, whereas construction training schemes have much more modest recruitment criteria.

191

More fundamentally, the views put forward are somewhat paradoxical since they require both a signal able to resolve uncertainty, and therefore to select individuals, while refusing to exclude them. In this sense, bringing the signal closer to actual work and combating its academic drift would modify the rules of exclusion, but would not alter their principle. Similarly, any temptation to lower the norm is an error as it would help to downgrade the qualification. It would, however, be desirable to promote everyone's right to assess themselves and gain access to credentials, making it necessary to set up information networks that are not well-developed at present. To return to the question raised at the beginning of this analysis, it seems that there has been a reversal of the causes by which certification is accused of generating exclusion, while the exclusion mechanism is primary and finds a way of manifesting itself through certification.

2.3.2 Legitimacy and legibility

When detached from training, and therefore from standardised curricula and knowledge, certification cannot be based a priori anymore on references that are prescriptive and potentially universal at a time t, as are subject knowledge attesting to the possession of skills and enabling individuals to be matched to jobs at a general level.

In face to face interactions, for instance between an employee and his direct superior, skills are in some ways 'immediately' legible but are then valid only between those interacting or their counterparts. The generalisation of this kind of recognition is not self-evident. According to Eymard-Duvernay and Marchal (1997, p.45), it requires implicit 'skill agreements' which underpin empirical assessment systems and may take the form of:

- negotiated qualifications linked to the mutual acquaintance and interpersonal networks of a particular profession;

- standardised qualifications whose macro-social efficiency supposes the existence of validation methods whose legitimacy and scope are proportional to their general nature.

In this way, the qualification attested by a certificate is not 'negotiable' as it is assumed to be shared by all those possessing the same certificate. This register of 'standardised qualification' is less geared to adjustment and is criticised because it has the effect of making the labour market more inflexible. If the legibility of competences may be a factor of flexibility, their larger-scale legitimacy makes the acceptance of standards unavoidable.

It is thus possible to put forward the hypothesis of a tension between legibility and legitimacy, as one decreases when the other increases. This is suggested by Jens Bjørnåvold (1997), quoting Habermas, when he speaks of the opposition between barter and monetary economy as the 'decontextualisation' of information on what is being traded. This is also, more empirically, the principle of the 'market versus network' (Eymard-Duvernay and Marchal, 1997, p.36). Some segments of the labour market thus operate on a prescriptive basis in terms of the recognition of skills that necessarily have to be attested by a diploma (senior managers, civil servants, etc.) while some professional markets, such as the photographers' market, assess candidates more by interpersonal recommendation and the presentation of previous work (press book). In one case, competences, of a generic and transposable nature, are perceived to be linked to certification and in the other case, competences, of a specific and empirically attested nature, are linked to individual characteristics. In other words, the methods by which an individual's skills can be recognised are not independent of the ways in which these skills themselves are defined.

The recognition of skills through certification is also a recognition of the ability of certification to guarantee and define the skills possessed. The 'competition between signals' is also a competition between 'what is being signalled', i.e. between different forms of skill definition. While the diploma is seen in France as guaranteeing general competences (subject knowledge that is assumed to be transposable, the archetype of which is the general baccalaureate) and, as a corollary, the ability of people to adapt a certain range of situations, it is also criticised for its inability

to guarantee that workers can be set to work immediately (see below). Certifying skills in a working situation may seem a possible way of remedying this, but the stress is nowadays being placed on the adaptation of employees to change and on its corollary, employability. The resultant tension between immediate efficacy and potential adaptability means that the stress is being placed in a somewhat contradictory way on the contextualisation (specific nature) of competences and their transverse nature (general nature). In the case of the British NVQs, this tension is particularly evident from the proximity of very specific skills (whose method of attribution is linked to a real or simulated work situation) and very generic skills that are assumed to be employable in all circumstances (the 'core skills', for instance communication).

If these skills, whether general or specific, can be readily attested within an enterprise through performance in a work situation, certifying them to provide them with a wider recognition assumes that they can be identified, described and validated in a way that is both precise and general enough. The question of identifying individual skills becomes particularly acute if there is an attempt to move away from existing and collectively recognised references. This leads to complex problems, on the one hand in defining skills and describing the activities in which they are constructed and manifested, and, on the other hand in transposing these elements into assessment procedures. These questions will be examined below.

3. Specifying standards

The main argument for the autonomy of certification systems is the overly strong academic constraint that their close proximity with the education system imposes on them. As far as we are aware, this has not led to any stated and militant desire to abolish all certification systems. It is even possible to interpret the fact that NVQs have been successful in places where qualifications lacked structure (Aventur, Möbus, eds., 1999) or, in France, 'the professional fields in which alternative forms of certification have been most developed are those in which employers control a training scheme specific to the industry' (Merle, 1997), as a desire to create or strengthen forms of legitimacy where there had previously been no or little such legitimacy. As Colardyn (1996, p.213) notes: 'one question concerns the apparent contradiction between the recommendation of a deregulation of collective bargaining and the need for a national strategy to define standards and systems for recognising qualifications and skills'.

The aim of criticisms of certification is not therefore to abolish it, but to make it more legitimate by bringing it closer to actual work in order to remedy the problems of generalisation, standardisation (Bjørnavold, 1997; Campinos-Dubernet, 1998) and ritualisation reflected by the bureaucratisation of recruitment procedures, censured by Dore (1997), over the last quarter of a century. This need to return to the reality of work is put forward both as regards the definition of the occupational objective of credentials and the forms of assessment through which they are awarded. This is not a new criticism, and the historical data may well show that it is congenital in the introduction of certification systems.

In the case of French diplomas, two kinds of criticisms are traditionally levelled:

a) the objective of these diplomas is not in keeping with the typical content of occupations, or the jobs for which they are intended, as the content of general academic teaching given in the educational establishment is too heavy;

b) they are assessed in school examinations or artificial situations having only a remote link with the actual conditions under which an occupation is performed.

This is the starting point of the questions examined below, where priority will initially be given to an approach in terms of content and process. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the production system, it is

193

necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described.

3.1 Occupations and performance standards

The main focus here is external validity, and therefore the relevance of the relationship between the qualification and the production system: in many cases this latter relationship has been strongly questioned, often in a very negative way, the most common criticism being the lack of satisfaction expressed by enterprises with the 'products' with which it is supplied by the education system.

These questions need to be refined as the congruence of this relationship is shaped in various ways. It is for this reason, even in Germany where employers are directly involved in defining the objectives of training and then in putting them into practice in the dual system – and where, therefore, the problem of congruence should be less acute – that questions can be raised about the degree to which training should be 'wide-ranging' and the degree to which it should be 'theoretical'. In this context, the relationship between credentials and the production system will be examined from three points of view:

a) domains of competences with reference to nomenclatures of training specialisms and occupations;

b) fields of competences with reference to occupational standards;

c) levels of competences in the context of a cognitive approach.

3.1.1 Domains of competences

This is the most general level in which the main fields of occupations are defined and a fully coherent relationship between training and the production system at this level would correspond to a complete coverage of the classifications of training fields and classifications of trades and occupations.

In order to develop an international classification for fields of initial vocational education and training, Andersson and Olsson (1996) conducted a very detailed comparative study of the classifications of training fields used by the EU Member States and some other countries. They discovered major differences between the different systems, the aspects of which that are most relevant from our point of view are examined below:

- 'there seem to be two main ways to classify programmes into fields, by subject content or by intended occupation(s)' (p.10). The French situation offers a good illustration of the first method: 'the technico-professional specialities are grouped together more in relation to the knowledges transmitted than in relation to the sociological or sectorial closeness between jobs for which the training may be conducted' (Annexes, p.9). The United Kingdom is also fairly close as 'SUPERCLASS II was designed to classify the subjects of all UK courses and learning opportunities, both academic and vocational' (Annexes, p.21). Germany offers an illustration of the second method: 'ultimately all classifications of vocational education and training (...) are derived from the Basic Classification of Occupations' (Annexes, p.8);

- 'some classifications of fields of study look like sector-oriented' (p.10). Spain can perhaps be included in this category but in practice the classifications used by the Ministry of Labour and the Ministry of Education 'are not really classifications of fields of study, but rather classifications of occupation (job) families. Each family groups together programmes leading to jobs having certain closeness, especially in terms of sector activity or technical system' (Annexes, p.7). It should be noted that the Spanish system has changed since the work of Andersson and Olsson, but retains a concern for coherence: the second voca-

tional training plan drawn up in 1997 for implementation in 1998 includes 'the creation of the National Vocational Qualifications System (which) should help correctly and permanently to identify existing qualifications and make it possible to update the supply of vocational training and set up schemes for the validation and equivalence of different methods of vocational training' (Roure, 1998, p.28; Manzanares Núñez, 1998).

The Spanish and German classifications seem to be those where the gap between training and the production system is smallest. The question is then one of finding out whether, at this level of analysis of domains of skills, the maximum reduction of this gap is an objective to be pursued. In this respect, Andersson and Olsson (1996) stress two points that may well indicate the contrary:

- 'it is difficult to use directly a classification of sectors or branches to classify fields of study: there are in each sector many occupations which exist also in other sectors (secretary, clerk, etc.). A sector-oriented classification aggregates in each broad field the programmes aiming at the typical occupations of a sector. The definition of these typical occupations is however very implicit and ambiguous. Where, in this sense, is the borderline of the category "maritime and fishing activities"? And which is the common point, in terms of vocational training, between aquaculture and sea transport?' (p.10).

- in order to formulate their proposed international classification of fields of training, Andersson and Olsson (1996) note that 'although occupation is a very important aspect for the fields of training, it must be remembered that fields of training (education) and International Standard Classification of Occupations (ISCO) are two different things' (p.3). They give a number of reasons why ISCO is not the most relevant choice for their objective: 'there is not always a straight link between training, or diplomas, and occupations...; there are many training programs which aim at broad sets of occupations or to transversal functions (maintenance for example) ...; the classifications of occupations are based on sociological closeness between occupations...Thus, even if many training programmes correspond to specific sets of occupations, it is not a good choice to use the same principle to aggregate them as in a classification of occupations. It is more relevant to build a hierarchical classification in which the aggregates are based on "knowledge closeness" ' (p.4).

It therefore seems that a complete congruence between training specialisms and the production system, which would be reflected by a match between the classification of training fields and the classification of trades and occupations, is not desirable at this level of analysis of domains of skills. This leaves, however, the question of the use to which a classification of fields of study drawn up in this way can be put. In this respect, the main aim of the classification proposed by Andersson and Olsson is statistical, in the context of setting up databases containing information on initial vocational training (the study was carried out under a contract with Cedefop/Eurostat). To what use can it be put from the point of view of constructing new training programmes and developing existing programmes? We do not have enough information to answer this question, but simply note that in France the nomenclature of training specialisms is used to classify vocational education diplomas, but has nothing to do with the CPC (Commissions Professionnelles Consultatives – Advisory Professional Committees) which are bodies within which diplomas are constructed and overhauled and which tend rather to follow a sectoral approach.

3.1.2 Fields of competences

Within each domain of competences, it is possible to identify fields of competences which are more or less coherent sets of occupational activities and tasks that help to define trades, occupations, qualifications, jobs, occupational profiles, functions, missions, occupational targets and, obviously, competences, both in the production system (in terms of demands and

needs) and in the education system (in terms of objectives).

A first discrepancy between a diploma's target and the production system in this respect may lie in the fact that the list of tasks and activities for the same trade (or occupation, qualification, etc.) differs in the two systems. Veneau (1997) provides a good example: through a detailed comparison of the occupational standards of a diploma (the vocational baccalaureate in 'mechanical automation') with the work actually performed in enterprise by holders of this diploma, the author highlights considerable discrepancies, not only from the point of view of the weighting of activities, but also from the point of view of the inclusion of some of these activities in the list: in other words, the qualification seems to include training in activities that are not actually performed in enterprise. One of the main reasons for this lies in the fact that the occupational standards are drawn up from an assessment of work activities by people who are not very aware of what actually happens in enterprise: not just people in the education system, but also industry employers' representatives serving on the CPCs and more broadly all those experts carrying out forward studies of trades and qualifications.

This is borne out by a second analysis by Veneau, on the standards of a Certificat de Qualification Professionnelle (CQP – vocational qualification certificate) for a machining operator-setter in heavy engineering. Veneau demonstrates that this qualification reflects the current industrial situation much more closely than the vocational baccalaureate: 'In heavy engineering, the CQP scheme is shaped by enterprise demand. The standards for these certificates are drawn up by enterprises and reflect their needs (...) various staff from operational departments (workshop supervisors, technical directors, etc.) in enterprise are involved. CQP standards are therefore drawn up directly from existing working situations. The drafting of standards does not therefore distort the reality of production to any great extent (by confusing types of activity, for instance). The more the people involved in formulating standards are removed from production situations, the more these distortions are likely to come into play (...)' (Veneau, 1997, p.170).

It should be stressed, however, that the discrepancy between the activities taught and the occupational activities expected by enterprises is not systematic and account needs to be taken here of the type of enterprise concerned and the training specialism. Campinos (1998) notes, for instance, from investigations conducted among thirty-eight small and medium-sized industrial enterprises, that the training supply in electrical engineering and electronics is well-matched: 'there seems to be a genuine satisfaction (among the SMEs surveyed) with the supply of training in the three levels in question (...) The knowledge imparted is in keeping with the various manufacturing activities, tests, controls, studies and methods on which newcomers are employed' (p.6). Eckert and Veneau (1999, p.3) make the same kind of observation in a study on training in 'electrical engineering' (electrical technology, electronics and industrial computing), when they identify various cases in which the 'basic trade is associated with a training specialism. The fact that the training specialism is in keeping with the basic trade can be explained by the fact that a reference common to both has been taken into account: the technical field'.

The way in which the standard is drawn up is also important and, from this point of view, genuine *in situ* analysis of work, involving 'work experts' and 'education experts', may make the description of occupational activities in standards, and their reflection in the content of training, easier and more relevant. The work of Liaroutzos (1997) on the administrative service sector illustrates this well.

It would therefore seem that the identity of the people involved in formulating standards and the actual way in which this formulation is carri d out are key factors in making these standards congruent with actual work activities. From this point of view, the 'consensus model' typical of Germany, in which agreement between the social partners, among other things on the content of training, is essential, seems more propitious than the French 'consultative model' in which the edu-

cation system is primarily responsible for steering and supervising the system. This comparison has already received a great deal of attention (see, among others, the most recent works of Möbus and Verdier, 1997, Béret et al., 1997), and we shall take it up here only to highlight two recurring questions concerning, on the one hand, how specialised, and, on the other hand, how theoretical diplomas should be.

3.1.2.1 How specialised?

Whether training should be broad or narrow is a major discussion topic in Germany, with the trade unions arguing for a field of competences that is broader than employers would like. The fact that most training takes place in enterprise in the dual system might well mean that training is limited to the specific activities of enterprise but, as a counterpart, the training profile and outline plan make some kind of generalisation necessary as they are drawn up so that they can be put into practice in a wide range of enterprises. While a compromise is always found, it should also be stressed that this tends to be at the cost of the concrete nature of the activities listed in this training profile and outline plan. In other words, the necessary generalisation seems rather to take the form of an abstraction. In this respect, the abilities and knowledge listed in the training profile and outline plan for industrial mechanical engineers, a technical processing option, in Germany, do not seem in practice to be more concrete than those set out in the occupational profile and diploma standard of the vocational baccalaureate in maintenance of automated mechanical systems in France – irrespective of the proximity of these two diplomas (Möbus, Verdier, eds., 1997, Annexes 1 and 2). This may point to the fact that the degree of extension of an occupation cannot be tackled solely from the point of view of fields of competences, i.e. by extending the list of activities in the standard, which in most cases involves making them more detailed by adopting more abstract formulations since, if too much effort is made to break an action down into more elementary actions, the end result is to lose any concrete content and meaning (Savoyant, 1999). The extension of the activity has more to do with the range of situations that the individual can handle in a given field of competences and can be perceived more in terms of the knowledge required to perform a range of actions than via a simple list of these actions. In other words, the extension of the activity refers to the level of competences required.

These cannot be assessed solely by observing performance, and it is for this reason that an activity cannot be reduced solely to its operational aspects: account needs to be taken of the 'how' of the activity, i.e. the cognitive processes that underpin it. It is also from this point of view that it seems pertinent to tackle another aspect of the extension of an activity that is becoming increasingly important in work, i.e. the 'action competences' involving 'the ability to plan, implement and supervise independently' (Koch, 1997, p.38). Very clearly, these abilities are not competences or activities that can be added to other occupational activities in a standard; their effect is more to modify the level of competence of these activities.

3.1.2.2 Theory and practice

The criticism most commonly made by enterprises is that training is too theoretical. The question is then one of finding out what this criticism really means and in this respect it has to be said that the distinction between theory and practice on which it is based has more to do with common sense than with any kind of scientific approach. Theory is not seen here as a foundation and validation of practice, making it possible to understand the 'why' of the actions that one performs, but merely as describing what is to be done (Savoyant, 1996) and is reflected in day-to-day language by formulae such as: 'more easily said than done'. In other words, excessive theory is predominantly a lack of 'practical' expertise gained from actual working situations. This point of view obviously has some foundation, and nobody can dispute the existence of experience-based knowledge that can be gained only from actual working situations. The problem is that, quite naturally, if theory and practice are differentiated in this way, the end result is to differentiate places

of training: theory in the classroom, practice in enterprise. It is difficult to articulate these two worlds in these circumstances and supplementing a list of occupational activities with a list of 'theoretical' knowledge is not enough to ensure this articulation in a satisfactory way. We must be clearly aware that activity takes place in the classroom and in the enterprise and that there is theory and practice in both cases. Analysing activity solely in terms of performance does not make it possible to address this question.

3.1.3 Competence levels

Competence levels give an idea of the degree of mastery of an occupational activity by an individual. In this respect, the relationship between diplomas and the production system cannot be reduced to a simple comparison of the skill levels required by enterprise and covered by the diploma since this would merely involve approaching an activity in terms of performance, specifically by placing these skill levels on a practical footing in performance lists. To go beyond performance alone, account has to be taken of the processes that underlie it and the conditions under which such processes are developed.

We shall therefore approach this question through a cognitive approach to alternance and more specifically to the conditions and content of the articulation between schools and enterprise. This is a vast issue and is a direct part of research into the construction of knowledge and competences in a working situation, with the result that it cannot be examined in an overall way here. Reference can nevertheless be made to the contribution of Dybowski and Dehnbostel to this report, and to the work of the European Work Process Knowledge network, recently involved in the TSER Work process knowledge in technological and organisational development programme. We shall merely look briefly here at some theoretical aspects of a cognitive approach to alternance.

Taking a cognitive approach means giving a central role to the activity of the individual and, in the case of learning by alternance, to the activity of the learner, in both a classroom and a working situation' (Savoyant, 1996). The dissociation and specialisation of places of learning ('theory' at school and 'practice' in enterprise) express a discrepancy which is reflected, in overall terms, by the lack of practical ability, criticised by enterprises, of people leaving the education system. This discrepancy can be analysed from two points of view:

1. a first aspect is well-illustrated by formulae of the type 'it is one thing to know how to do something and another thing actually to do it'. This discrepancy is normal and largely unavoidable, and merely highlights the fact that there are experience-based competences that can be acquired only in an actual working situation;

2. the knowledge acquired at school is not the base knowledge of work activity. When put in this way, this notion makes it useless to seek any articulation between school and work. The most common situation is rather that the knowledge taught at school does not cover all the base knowledge called into play by work. The main reason for this is that this base knowledge cannot be reduced to subject knowledge and is formed largely by perceptions and concepts that are closely linked to this work. When formulated through and for this work, it is difficult (and in some cases impossible) to place this base knowledge on an explicit and objective footing in the form of external knowledge, which would be a prerequisite for it to be imparted and validated outside the actual working situation. This is a key question in alternance and, in this respect, occupational teaching approaches seem particularly relevant in identifying and formalising this base occupational knowledge (Vergnaud, 1992; Pastré et al, 1995). Analysis of actual work in terms of conceptualisations and representations specific to each field of activity that it involves occupies a key place here and thus makes it possible to go beyond the boundaries of identification by standards systems that is too often exclusively based on an analysis of prescribed tasks. Moreover, this more objective approach should also help to ensure a common reference for school teachers and enterprise trainers or mentors.

If we fully accept the idea that the activity of the learner is as essential at school as it is in enterprise, the question is not one of applying the 'theoretical' knowledge learnt at school to the work situation but one of articulating the activity of appropriating knowledge at school with production work in enterprise. 'From this point of view, if the acquisition of knowledge involves only listening and learning by heart (by the learner), the only activity in which it can be directly used is the activity of speaking and restituting this knowledge. (...). If it is appropriated solely in this way, knowledge remains "formal" ' (Savoyant, 1996, p.2) and is therefore difficult to put into practice at work as it remains external to this work instead of being integrated into it. The aim is therefore for the teacher to encourage 'good' activity by the learner. While it seems of little use to make this activity coincide directly with actual work (since that would be on-the-job training), it nevertheless seems necessary for it to be sufficiently representative of this work.

3.2 Assessment: standards in action

We mentioned above that the signalling effect of paper qualifications was being called into question as the training that leads to them is often felt to be out of kilter with labour market needs. This type of criticism is common in France (Tanguy, ed., 1986) and probably in Spain too, where, in the case of vocational options, 'enterprises' perceptions have always been marked by mistrust and misinformation' (Muñoz, 1997, p.50). In France, employers' representatives consider that the 'diploma makes it possible to certify, at a given moment, the existence of some individual resources, in particular knowledge, but not the practical application of occupational skills exercised in real working situations throughout the vocational course' (CNPF, 1998, pp.68-69), a point of view that is obviously not shared by educational institutions. This is part and parcel of an ongoing debate on the nature of competences and, more recently, on their methods of validation.

The validation of learning involving individuals, employers and the education system is crucial to these questions. The following analysis will focus on these schemes and on the certifications to which they lead as these seem to be good indicators of the links or tensions between certification, training, competences and occupational performance. What the validation of learning says about competences depends on the ways in which assessment systems are designed and put into practice.

3.2.1 The design of learning validation schemes

The ways in which learning validation schemes are designed defines the framework that will be most in keeping with the target objectives. The schemes examined below offer exemption from all or part of a training course leading to an existing qualification, or award a specific certification to endorse the value of experience. The same assessment criteria will not be used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear cut. After comparing learning validation schemes with other qualifications, we shall then examine assessment criteria.

3.2.1.1 Validation of learning and conventional certification systems

We initially located learning validation schemes with respect to the conventional pairing of education + certification placed on a formal footing through work under the European ADAPT programme by the Délégation académique à la formation continue of Strasbourg (Abisse, 1997). The following schemes were examined:

- the German Externenprüfung;
- the Spanish Certificado de Profesionalidad, awarded by the Ministry of Labour and Social Security;
- the French Validation des Acquis Professionnels (VAP), organised by the Ministry of Education;

- the French Certificat de Competences Professionnelles (CCP), awarded by the Ministry of Employment and Solidarity and organised by AFPA (national association for adult vocational training) which it runs;
- the British Accreditation of Prior Learning (APL), which is not always clearly differentiated from the NVQs to which it may lead (Scottish Qualifications Authority, 1997);
- the NVQs which are not, properly speaking, a learning validation scheme but which, as they themselves contain no compulsory training element, are tending to become a compulsory point of reference in this area. They have also provided inspiration for the Spanish and French Ministries of Employment.

We shall not look at Belgium where thinking about these questions has been underway for several years in the French Community where 'there is no global and concerted mechanism for coordinating and recognising the skills acquired from continuing vocational training schemes (...) (the Community does not have) a rational public system of vocational qualification covering the whole of the field. The only system of certification that has social recognition throughout the French Community is that run by the education system' (Conseil de l'Éducation et de la Formation, 1999). This situation can perhaps be explained by the fact that it is more the reputation of the school than certification that provides a signal on the labour market.

The French VAP and the British NVQs are the best documented of all the schemes examined here. They are the outcome of vocational training systems that oppose formal education and apprenticeship. The NVQs are rooted in experience and while training elements are part and parcel of the VAP, it does not make it possible to obtain the diploma as a whole.

The learning validation scheme closest to the certification systems in use in its country is the German Externenprüfung under which exemption from all or part of the training leading to national examinations can be requested. The Spanish Certificado de Profesionalidad, which validates skills listed in a national list, is the furthest removed. It is nevertheless close to the NVQs, like the French CCPs which validate skills acquired solely from experience. The differences between these schemes have not been fundamentally shaped, therefore, by their national connections. Differences within the same country are also shaped by an institutional factor: the separation, in some cases controversial, of responsibilities for the validation of occupational learning between the Ministries of Education and Employment, as in Spain and France. This separation has been shaped by different attitudes and links, the Ministry of Education covering schools and the Ministry of Employment covering enterprises (see point 2.1.2). In France, therefore, the VAP, under which exemption from some of the units making up a diploma can be obtained, is supervised by the Ministry of Education, while the CCPs, focusing on occupational experience, are administered by the Ministry of Employment and Solidarity. This dialectic between school and employment brings up the key question that is at the heart of the problems of validating learning: that of the complex relationships between doing and knowing in what Yves Clot (1999) calls the unfathomable skill.

3.2.1.2 Reference profiles and standards

In all the countries examined here, the state is the guarantor of the validity, reliability, equity, objectivity and therefore of the legitimacy of assessment procedures. Assessment standards are among those rules that have to be approved by the state. If they were not, the reliability of the national assessment system would be diminished. Solar (1995, p.82) indirectly stresses the need for common criteria in respect of skill portfolios, 'a method that involves many people in the assessment procedure (each assessing knowledge) according to their own framework. This means that something that was intended to be objective is not'. In other words, in an assessment, the various points of view must be expressed on the basis of previously defined common criteria, otherwise diversity makes it impossible to reach a consensus.

Employers are involved everywhere in constructing vocational training schemes and in formulating assessment standards. France is among those countries where employers are most clearly calling into question the diploma by giving themselves the sole right to construct skills. Carrying out an assessment according to criteria that they have themselves determined would give employers better control over the other forms of recognition, i.e. grading and pay. It is not just the diploma, however, but the whole regulatory function of the state, that is being contested. British employers are also criticising a system in which they are, however, one of the principal players: 'many employers (...) expressed continuing concerns about the incoherence of the wider vocational qualification structure, the plethora of traditional vocational qualifications, the burden of assessment in NVQs, some lack of reliability and consistency in assessment (...)' (DfEE, 1999, p.38). Here again, it is the state's functions of organisation and control that are being questioned.

It is undoubtedly much easier to contest paper qualifications nowadays. For some years, major French enterprises have been using skills as a tool for managing human resources. In this respect, they have carried out analyses of work in order to develop directories or profiles of skills that can be used for training purposes. The need to write up work procedures for accreditation under the ISO9000 quality assurance standards has also played a part in developing the practice of activity or skill profiles specific to a particular enterprise. This is not without a link with the validation of knowledge gained from experience. 'Writing up working procedures consists in extracting and articulating action skills which, although socialised and potentially possible to place on a "formal" footing, have up until now remained tacit (...) This involves redefining and rationalising skills acquired from experience (...) The operation of discovery and formalisation provides a kind of validation of action skills' (Campinos-Dubernet and Marquette, 1998).

For all these reasons, tools for identifying skills that use a wide range of methods are proliferating (Penso-Latouche, ed., 1998). This proliferation would seem to suggest, and caution is needed here, that this is an easy matter. As these profiles are by their nature closer to real work than any profile drawn up outside the enterprise, an artificial convergence resulting from disparate assessments could lead to the notion that the training given by the education system, and therefore paper qualifications, are not in keeping with the skills actually being sought.

The national standards drawn up to validate learning may be similar to those used to validate training courses or may be formulated specifically to validate learning from experience. The Externenprüfung and the VAP fall within the first case and the NVQs and the Certificado de Profesionalidad fall within the second case. The CCP certification profiles are in an intermediate position. AFPA attempted initially to use the Répertoire opérationnel des métiers et emplois (Operational directory of trades and occupations) of the National Employment Agency. It had to supplement it from the analyses of work and reference profiles that it draws up when setting up training schemes (Roman, 1998). Consequently, the performance standards drawn up to assess formal learning from training courses are very evident in the assessment of informal learning. It seems to be the case that, as the validation of learning is a recent development, specific methods are under construction and use has initially been made of existing, reputedly reliable, tools.

This pragmatic choice may not necessarily be the best way of meeting the objectives being sought. 'The context of the validation of occupational learning mobilises experience from the point of view of its "school" assessment and this mobilisation is not the same as the mobilisation of experience for the action of work itself. Skills will not be organised in the same way in both cases' (Clot, 1999, p.31) The questioning of diplomas by French employers then highlights a basic problem: are the criteria and methods used for assessment inappropriate because they are too heavily marked by the school world? Reciprocally, the abandonment of the initial principles of the CCP experiment, based on very short (one-page) job descriptions drawn up for the pur-

poses of placing jobseekers, shows that making do with the 'employment' dimension is no more relevant for the purposes of validating learning. It is highly likely that any job description drawn up for purposes other than the validation of learning would not have been appropriate either. Are the ideal standards to be found somewhere between the two? The British, who were not impeded by school criteria, have tried to find the perfect assessment standard. Several authors (Green et al., 1999; Eraut, 1996; Wolf, 1996) have stressed that this led them to an ever greater precision that is now causing the government to der and that they back-pedal (DfEE, 1999). Wolf stresses that this deviation is inherent in the type of approach used: 'The more serious and rigorous the attempts to specify the domain being assessed, the narrower and narrower the domain itself becomes, without, in fact, becoming transparent' (1996, p.55).

The issue of precision harks back to the issue of the general and the specific raised by transverse skills, key or core skills and qualifications covering a very extensive occupational field that may in some cases concern several sectors of activity. In France, the reference profiles for such diplomas are generally geared to local situations, i.e. 'contextualised' for the purposes of training and assessment in work situations (Kirsch, 1989). The reference is nevertheless still the national profile. The overall process entails a whole range of translation operations. If learning is validated from an analysis of written or oral discourse, a further translation will be necessary to establish a link between the description of the activity proposed by the candidate and the assessment standard prescribed by the qualification.

Standards are constructed or adjusted by an iterative process that feeds on prior experience. The question is one of ascertaining whether this iterative process causes a loss of sight of the initial objectives, i.e. in this case an assessment based on skills. One of the paradoxes of a skill is that it is contextualised but is perceived as a predictor of employability. If the context is overly reduced, is it still possible to talk about a skill and, even more so, about employability? What validity do standards based on an excessive fragmentation of the description of an activity have? 'by stating that someone has "acquired a skill", it is assumed that he could and would use it in any appropriate context, but the nature and extent of the indices required to support this statement are still problematic' (CERI, 1998, pp.81-82).

It would seem that the aim of the desire to certify and to draw up criteria or standards for this purpose is to reduce the overall uncertainties in which we live. 'We are latching onto the notion of skills to cover a new labour market situation, in which qualifications no longer guarantee jobs. This aspect of the new world order cannot be disregarded: skills are to qualifications as employability is to employment. Certainties (qualifications, jobs) are tending to become hypotheses (skills, employability)' (Bellier, 1998).

3.2.2 The use of standards in assessment

It would seem from the above that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule. None of this would be of any importance without the people responsible for evaluating candidates seeking accreditation of their learning.

3.2.2.1 Assessment methods

A standard is put into practice through assessment methods and is subject to its own test of validity. Depending on the scheme, assessment may take the form of an examination based on a dossier or a portfolio of evidence or competences, during an assessment in an actual or simulated working situation, may entail an interview or may combine several of these elements. The only assessment methods that completely disregard conventional examination formulae are the CCP in France and the APL and NVQs in the United Kingdom.

Not all forms of assessment are equivalent. 'APL is necessarily a highly individualised

process and, for quality control purposes, requires the amassing of comprehensive evidence that can be checked and validated. Many candidates do not have evidence of this sort readily to hand and many find that they can only cover parts of an award. It is often as easy, or cheaper, to retest such candidates from scratch, or enrol them on a course. The only area where, in England, the approach seems to succeed and be cost-efficient is with office skills' (Green et al, 1999). Ultimately, even when the rules are the same for everyone, they are not necessarily equitable.

Leaving aside cases in which certification entails an examination or a test in a working situation, candidates for validation have to draw up a portfolio or a dossier in which they describe the activities through which they have gained the skills that they wish to have validated. They are generally able to obtain assistance with this. In addition to practical advice and drafting aids, part of the process of assistance for candidates is to help them to place their descriptions on an objective footing, and to distance themselves from their experience as 'the skills that the person uses are not "ready-made" for the purposes of explanation. Our investigative work is not intended to locate them as invariant learning that can be validated only through analysis' (Clot, p.31). This maieutic approach tends to be very instructive for candidates who are ultimately responsible for finding the link between knowing and doing as 'the knowledge mobilised in a working situation, i.e. day-to-day concepts, given meaning by occupational experience, is not the same as the knowledge acquired from training, i.e. scientific concepts. Finding a link between these two spheres of knowledge is a conquest in which the person's activity plays a key role' (Clot, p.15). It is also true that this relationship can be forged only through joint work by the candidate and the person helping him or her to draw up a dossier. Joint analysis of the candidate's activities makes it possible to infer that, despite the one-off nature of the assessment, the skills observed can be transferred to other situations.

When validation is based on assessments in working situations, candidates cannot use the same process of formulation as when assessment is based on a dossier or portfolio. It is then the choice of the assessment situation that should offer them the best possibility of demonstrating their skills. Assessors preparing for a situation of this type are in much the same case as trainers trying to discern formative working situations. In both cases, there are two approaches: 'the educational learning approach, of an analytical type, which involves breaking down the complex into simple and elementary units, and the occupational activity or cognitive approach, of an integrating type, which involves combining multiple skills and is reflected by activities that can to some extent be isolated as subsets of the qualification' (Lechaux and Barkatoolah, 1994, p.106).

3.2.2.2 Assessors

All the above points to the important part that the people who put learning validation schemes into practice play in making them functional. The composition of assessment panels is the point at which these systems are closest to conventional systems. This closeness probably has a lot to do with a concern for acceptability and credibility (Bjørnavold, 1997), as conventional systems still have considerable social legitimacy, whereas learning validation schemes find it difficult to become rooted. The Externenprüfung, established after the First World War, involves some 30 000 people per annum in comparison with the dual system which trains some 1 600 000, with almost 600 000 examinations p.a. (BMBF, 1998). The Certificado de Profesionalidad is finding it difficult to leave the experimental stage. In France, the VAP panels examined 2550 dossiers in 1997 (DESCO, 1997) whereas 715 560 students sat the same technological and vocational education diplomas (DPD, 1998). The second experiment with the CCP is to involve 1000 people, and the first involved 200. It is difficult to estimate the population involved in the United Kingdom's APL as the statistics do not always differentiate it from the NVQs which, in turn, illustrate how difficult it is for new systems to put down roots and gain acceptance. There are currently 840 NVQs, whereas there are 1800 other vocational certificates complying

with the standards approved by the Qualification and Curriculum Authority and 17 000 which do not or only to some extent comply with these standards (DfEE, 1999). The government is currently taking action drastically to reduce the number of Vocational Qualifications not accredited by the QCA.

The fact that teachers are in the majority, as in the case of the French VAP where ratios of this kind were from the outset laid down in the legislation, may show that more importance is being attached to knowledge than to expertise and that qualifications are still firmly rooted in the school sphere. If this is the case, there is a risk that education standards will have the upper hand over performance standards. Before looking at this hypothesis, however, it should be noted that few categories are eligible for assessment tasks. Since knowledge needs to be related to experience, it is logical that panels contain both teachers and practitioners. Teachers have traditionally been assessors and still have considerable legitimacy even though they are using the knowledge that they have acquired in academic disciplines in the occupational field. Here again, the transfer of skills can be explained by the fact that appropriate ways of conducting spot assessments of occupational performance have yet to be found: good mentors are not made in a day.

Potential tensions of this kind make it necessary to look at the skills of panel members. A competent practitioner does not necessarily possess the skills of an assessor. In France and the United Kingdom, the people involved in the learning validation process receive special training. As they gain experience of validating learning, the risks of academic or professional imperialism are reduced as everyone becomes aware of their own limits. A representative of the Ministry of Education, who has had this kind of experience in France, stresses that 'paradoxically, a maths teacher is not the best person to assess the maths abilities of a candidate who is a bus driver: the practitioner is much more aware than the teacher of the conditions under which the job is performed and what skills, including maths, are actually involved in the job' (Bernard, 1997, p.46).

At this stage, we should like to put forward the hypothesis that validation decisions cannot be based entirely on the strict application of standards. This does not mean, however, that the prior constructions and tools developed for assessment are of no use. We have discussed the structuring role of standards and predetermined assessment criteria when assessing a skills portfolio. Although at a different level, work to analyse these application portfolios or dossiers for learning validation is just as essential, as a member of an assessment panel stresses: 'the dossier is less the foundation on which we base our judgment than a document from which we extract information useful for conducting the subsequent interview with the candidate. If we did not have this dossier, the candidate would not be ready for the interview and we ourselves would find it much more difficult to conduct this interview. The interview is often, however, the determining factor' (Bernard, 1997, p.46). Blindly applying a standard under the pretext of equal treatment is not therefore possible. 'It is impossible to judge the abilities of adults who have been working or have worked for a number of years in an occupation without taking account of the human density of these candidates (...) The interview makes it possible to find out why a candidate is requesting this rather than another exemption (...) In every case, this clearly raises the problem of the link between the skills required to obtain the diploma and those required for the practice of the occupation for which the diploma is needed. The panel cannot therefore disregard the issue of the candidate's motives (...) if candidates need a diploma for career reasons (...) should they be exempted from the maths test that they would not pass when we, as practitioners, know that the corresponding skills will genuinely be of no use to them?' (Bernard, 1997, p.47). As a guarantor of the validity and reliability of procedures, the panel also needs to be a guarantor of their equity.

4. Conclusion

It seems important to stress three points following this analysis:

a) certification is giving rise to a debate about occupational knowledge and the conditions under which it is generated that is calling traditional attitudes into question;

b) the increasing autonomy of certification is also being reflected by its diversification. Assuming that there is a single and federating dynamic shaped by the proximity of production systems, and therefore the proximity of the skills needed, would be untrue. Any dogmatism in this respect is dangerous; placing an eminently social practice, that is trusted because of the high-quality expertise of those who organise and implement it, on an excessively technical footing would be just as dangerous;

c) decisions taken in this field have major moral and civil repercussions.

4.1 Certification and recognition of occupational knowledge

As the preceding analysis has shown, the increasing autonomy of certification systems does not mean that they are independent from training. Justified criticisms of overly academic approaches have in some cases meant that practice, assumed to be enlightening, has been exalted, which does not seem any less suspect. The real question is how occupational knowledge, whose nature goes beyond technical mastery, can be identified, passed on and assessed, making it necessary to break away from the traditional divides between theoretical and practical knowledge and general and applied knowledge. It would seem, moreover, that this knowledge is to some extent being generated and passed on within organisations, which raises two questions:

- internal recognition of this knowledge;
- recognition of the ability of organisations to foster such knowledge creation and transmission.

Internal recognition of knowledge involves 'negotiated skills' in the sense of Eymard-Duvernet and Marchal (1997). This raises the problem of the particular signal of such recognition. Some enterprises use existing qualifications (Feutrie and Verdier, 1993) and others are setting up their own certification systems (Périsse, 1998). Choices depend on the ways in which enterprises manage human resources. They are wondering whether paper qualifications can be adapted for this purpose and, although this is not self-evident, it can be politically encouraged. They are also raising questions about the limits of these qualifications and other forms of certification for the recognition of locally generated skills. In other words, not everything is necessarily certifiable and maybe it is better to accept uncertainty than to set up systems that are too sophisticated or too restrictive.

The ability of these organisations to foster knowledge creation and transmission is central to debates on the learning society, but it is striking to note that there are already some prejudices. To our knowledge, nobody anywhere seems to be taking account of the fact that places of training are also organisations, with a collective life, or of the fact that the people who attend these places are increasingly often adults, even in initial vocational training. Bjørnåvold's (1997) logic of 'legitimate peripheral participation' (quoting Lave and Wenger, 1991) applies equally to them.

4.2 Diversification of certification

Just as they are becoming more independent, certification systems are also diversifying; the risk is then that they become less legible and may mean that steps need to be taken to make them compatible. It seems difficult to accept, however, that all knowledge can be certified in the same way. This is often the position that is nevertheless defended in the name of individual equality and the transparency of systems.

Different types of assessment can be pinpointed, however, depending on the type of knowledge in question:

- the assessment of objectively-based knowledge is very compatible with more or less automatic forms of accreditation which opens up considerable scope for the development of self-assessment and teaching innovations using the new information and communication technologies;

- the assessment of social skills requires recognition by 'expert peers' and raises the question of building up a stock of expertise in formulating standards and assessment practices. Ministries need, for instance, to be able to formulate qualification policies providing a framework for their training activities. Moreover, and in the light of the French case, while some people deplore the lack of participation of employers' and workers' trade union representatives on panels and juries, it is just as possible to highlight the high-quality involvement of these participants, despite the lack of preparation that they receive and the lack of recognition that they gain;

- setting up organisations generating knowledge has more to do with the respect of standards that promote this genesis of knowledge that can be validated by formulae along the lines of industrial standardisation.

At present, the greatest danger is undoubtedly that of dogmatism which suppresses differences because they cannot be tolerated. Flawed doctrine is nevertheless almost as dangerous. The first step in making systems compatible may well lie in demarcating their domains and in respecting their missions than in attempts to harmonise their methods and outcomes.

From the point of view, however, of closer links between certification systems at a European level, it is striking to note the lack of interest in trades that are increasingly less national: the transport trades come to mind, although trades in banking and informatics and higher education jobs could also be mentioned.

4.3 A question of citizenship

The certification market is prosperous and expanding. This is leading to practices of a commercial type, sometimes involving public services or states. Current developments seem to be underpinned by attempts to impose formulae in which finance is more important than the lack of substance of scientific and technical arguments. In the social sphere, as in biology, it is dangerous to try out anything and everything, relying on a kind of transcendental Darwinism to ensure that the best solution for the community wins out over other solutions. Setting up national 'committees of experts', coordinated at European level, might help to curb this type of problem.

Summary

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Before then, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

This report looks first at the issue of the increasing autonomy of certification systems, and the various ways in which this is taking place in different countries, focusing in particular on the reorganisation of links between education and training and certification.

This increasing autonomy has highlighted the question of skill identification. This has been reflected by a need to rethink performance and assessment standards, an issue that is examined in Part 2.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work.

Certification systems: genesis and increasing autonomy

Judging by historical data, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment tends to bear out this second hypothesis. The few references to certification in historical works show, moreover, a trend towards a gradual appropriation of schemes

by the state, reflecting the state's growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could – and can – intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. The state is plural. In these circumstances, therefore, it seems logical that occupational certification, despite a common historic dynamic, takes different forms, even within the same country, and is not moving in the direction of transnational harmonisation.

The report then goes on to look at the contemporary developments that are tending to make certification increasingly independent from training: the special nature of a 'qualification' effect, which is becoming increasingly important in a labour market marked by growing mobility and far-reaching change, is thus examined. Certification is being mobilised particularly as changes in production systems are making the ability of employees to carry out the tasks with which they are entrusted less and less certain. New qualification requirements and different forms of knowledge in return raise the question of defining new assessment criteria and standards. Part 1 ends with an examination of two of the questions currently being raised about certification: the link between certification and exclusion and the problem of reconciling legitimacy and legibility.

Standards and assessment

The report goes on to address the new methodological problems being raised by certification's increasing autonomy from training, looking in particular at the ways in which standards are drawn up and put into practice in assessment procedures. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the production system, it is necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described. The report then looks at the relationship between qualifications, certification and the production system from three points of view: domains of skills with reference to nomenclatures of training and employment specialisms, fields of skills through job reference profiles and levels of skills using a cognitive approach.

Assessment issues are examined from the point of view of procedures for the validation of informal learning which offer a good illustration of the links or tensions between certification, training, skills and occupational performance. The issue is examined from the point of view of the design and use of the various countries' existing schemes and in particular the standards that underpin them. There are two trends: schemes that offer exemption from all or part of a training course leading to an existing qualification or schemes that award a specific certification to endorse the value of experience. The same assessment criteria are not used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear-cut.

The report then looks at the formulation of assessment criteria, their links with existing systems, the methods by which they can be put into practice and at assessors themselves. It would seem that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule The report puts forward the hypothesis, however, that validation decisions cannot be based solely on the strict application of standards. This does not mean, however, that the prior construc-

tions and tools developed for assessment are of no use. Standards play a structuring role as they provide a reference system common to the various people responsible for assessment, who are guarantors of the validity, reliability and equity of procedures.

References

Abisse M.-C., ed., 1997. ADAPT Project (with the support of the European Commission). *Validation des acquis professionnels*. Manual. Preliminary version prior to a seminar. Strasbourg: Délégation académique à la formation continue (DAFCO), unpublished

Alaluf M., Vanheerswynghel A., 1998. Eurocertification. Rapport de contextualisation pour la Belgique. *In:* CEREQ, ed., *Eurocertification*. Interim report. Marseilles: Céreq, unpublished, pp.9-19

Andersson R., Olsson A.K., 1996. *Fields of training. Development of an internationally comparable classification for fields of vocational education and training*. Örebro: Statistics Sweden

Arrow K.J., 1973. Higher education as a filter. *Journal of Public Economics*, 2, pp.193-216

Aventur F., Möbus M., eds., 1999. *Formation professionnelle initiale et continue en Europe. Visa pour l'avenir*. 2nd ed., Paris: Magnard / Vuibert Multimédia

Béduwé C., Espinasse J.-M., et al., 1998. *Diplômes, compétences et marché du travail en Europe. Rapport de synthèse d'une étude comparative menée en Allemagne, en Espagne, en France, en Italie, aux Pays-Bas et au Royaume-Uni*. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Beicht U. et al., eds., 1997. *Berufsperspektiven mit Lehre. Wert und Zukunft dualer Berufsausbildung*. Beiträge aus Berufsbildungswissenschaft und -praxis. Bielefeld: Bertelsmann

Bellier J.P., 1997. Ouvrir la voie à une labellisation des compétences. *Le Monde*, 5 November 1997

Bellier J.P., 1998. Reconnaître les compétences: question mondiale, réponses diverses... *Entreprises formation*, 107, pp.18-20

Bellier J.P., 1998. L'utilité sociale de la compétence. *In*: Conseil de l'Éducation et de la formation. *Validation des compétences*. Proceedings of the seminar of Friday, 24 April 1998. Brussels: Conseil de l'Éducation et de la formation, pp.28-35

Benarrosh Y., 1999. La notion de transfert de compétence à l'épreuve de l'observation. *Travail et emploi*, 78, pp.53-66

Béret P., Daune-Richard A-M., Dupray A., Verdier E., 1997. *Valorisation de l'investissement formation sur les marchés du travail français et allemand: distinction entre valeur productive et valeur de signalement*. Aix-en-Provence: Laboratoire d'économie et de sociologie du travail (LEST)

Bernard C., 1997. Des jurys confrontés à des professionnels. *Éducation permanente*, 133, pp.45-48

Bertrand O., Duran-Drouhin M., eds., 1996. *Qualifications et compétences professionnelles dans l'enseignement technique et la formation professionnelle. Évaluation et certification*. (English translation: *Assessing and certifying occupational skills and competences in vocational education and training*), Paris: OECD

Bertrand O., 1997. *Évaluation et certification des compétences et qualifications professionnelles*. Paris: UNESCO, International Institute for Educational Planning

Besucco-Bertin N., Klarsfeld A., Kogut-Kubiak F., Quintero N., 1998. *L'institution d'une logique compétence dans l'industrie pharmaceutique: un enjeu de redéfinition du lien branche-entreprises*. Marseilles: Céreq

Bjørnavold J., Sellin B., 1997. *Reconnaissance et transparence des qualifications professionnelles. La voie à suivre*. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Bjørnavold J., 1997. Evaluation des acquis non formels: qualités et limites des méthodologies. *Formation professionnelle*, 12, pp. 56-73

Broadfoot P., 1996. *Education, assessment and society. A sociological analysis*. Buckingham: Philadelphia: Open University Press

Brucy G., 1998. *Histoire des diplômes de l'enseignement technique et professionnel (1880-1965). L'Etat, l'école, les entreprises et la certification des compétences*. Paris: Belin

E09

Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, 1998. *Grund- und Strukturdaten 1998/99*. Bonn: Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie

Buttler F., Tessaring M., 1995. Allemagne, le capital humain, facteur d'implantation industrielle. *Sociologie du travail*, 4, pp.577-594.

Campinos-Dubernet M., 1998. *Standardisation des diplômes et diversité des conventions de productivité des entreprises*. In-house seminar of GIP MI – 14 December 1998

Campinos-Dubernet M., 1996. Le rôle de l'évaluation et de la certification dans le fonctionnement du système de formation et du marché du travail. *In:* Bertrand O., Duran-Drouhin M., eds. *Qualifications et compétences professionnelles dans l'enseignement technique et la formation professionnelle. Evaluation et certification*. Paris: OECD, pp. 119-131

Campinos-Dubernet M., Marquette C., 1998. Les normes d'assurance qualité ISO 9000. Prescription accrue ou opération de dévoilement des savoirs de l'entreprise? *Céreq-Bref*, 140

CEREQ, 1998. *Eurocertification*. Interim report. Marseilles: Céreq, unpublished.

CERI – Centre for Educational Research and Innovation, 1998. *School curricula. Instructions for use*. Paris: OECD

Charraud A.M., 1999. *La reconnaissance et la validation des acquis informels en France*. Paper given for Cedefop, Agora V, 15-16 March 1999

Clot Y., 1999. *La validation des acquis professionnels: nature des connaissances et développement*. CPC Documents, 4

CNPF, 1998. Les propositions du CNPF. In: *Objectif Compétences, Journées internationales de la formation, Deauville*, 7, 8, 9 October 1998. Vol. 2, pp.68-70

Colardyn D., 1996. *La gestion des compétences*. Paris: Presse universitaires de France

Commissariat général du plan, 1978. *La qualification du travail. De quoi parle-t-on?* Paris: La documentation française

Conseil de l'Éducation et de la formation, 1999. *Propositions pour le redéploiement de la Commission communautaire des professions et des qualifications*. Opinion 61. Meeting of 5 February 1999. Brussels: Conseil de l'Education et de la formation

DESCO (Ministère de l'Éducation nationale, de la Recherche et de la Technologie, Direction des enseignements scolaires), 1997: *Bilan de la Validation des acquis professionnels, année civile 1997*. Paris: Ministère de l'Éducation nationale, de la Recherche et de la Technologie. Unpublished

Degenne A., Lecoutre M. et al., eds., 1999. *Insertion, transition professionnelle et identification de processus*. Marseilles: Céreq

D'Iribarne A., 1996. Une lecture du livre blanc sur l'éducation et la formation. Eléments pour un débat. *Formation professionnelle*, 8-9, pp. 23-31

Dore R., 1997. *The diploma disease. Education, qualification and development*. 2nd ed. London: University of London, Institute of Education

DP&D (Ministère de l'Éducation nationale, de la Recherche et de la Technologie, Direction de la programmation et du développement), 1998. *Repères et références statistiques sur les enseignements et la formation 1998*

Dupray A., 1999. Un modèle de file d'attente pour représenter le processus d'insertion professionnelle. *In:* Degenne A., Lecoutre M. et al., eds. *Insertion, transition professionnelle et identification de processus*. Marseilles: Céreq, pp. 127-142

Duru-Bellat M., Kieffer A., Mearelli-Fournier I.,1997. Le diplôme, l'âge et le niveau: sens et usages dans les comparaisons de systèmes éducatifs. *Sociétés contemporaines*, 26, pp. 45-69

Eckert H., Veneau P. et al., 1999. Electronique, électrotechnique, informatique industrielle. De la spécialité de formation au métier. *Céreq-Bref*, 152

Eckert H., Veneau P. et al., 1999. *Des contenus d'enseignement aux situations de travail. A propos des spécialités 'électrotechnique', 'électronique' et 'informatique industrielle'*. Rapport final de l'étude 'Génie électrique'. CPC Documents, 1999/1

E10

England. DfEE – Department for Education and Employment. 1999. *Second report of the National Skills Task Force. Delivering skills for all*. Sheffield: Department for Education and Employment

Eraut M., Parkes J. et al., 1996. *The assessment of NVQs*. Brighton: University of Sussex, Institute of Education

European Commission, 1995. *White Paper on education and training. Teaching and learning. Towards the learning society*. Luxembourg: Office for Official Publications of the European Communities

Eymard-Duvernay F., Marchal E., 1997. *Façons de recruter. Les jugements de compétences sur le marché du travail*. Paris: éditions Métaillié

Feutrie M., ed., 1998. Évaluer, valider et certifier les compétences professionnelles. *In*: CNPF. *Objectif Compétences. Journées internationales de la formation*, Deauville, 7, 8, 9 October 1998. Vol. 6

Feutrie M., Verdier E., 1993. Entreprises et formations qualifiantes. Une construction sociale inachevée. *Sociologie du travail*, 4, 93

Godet M., 1993. La maladie du diplôme. Proposition pour une nouvelle politique. *Futuribles*, 173, pp. 23-46

Gordon J., 1993. *Systems and procedures of certification of qualifications in the European community. Comparative analysis*. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Green A., Wolf A., Leney T., 1999. *Convergence and divergence in European education and training systems*. London: Bedford Way papers

Gray J., McPherson A., Raffe D., 1983. *Reconstructions of secondary education. Theory, myth and practice since the war*. London: Routledge & Kegan Paul

Guergoat J.C., Marchand O. et al., 1999. L'évolution des marchés du travail européens dans les années 1990. *Premières informations et premières synthèses*, 29.1

Hancké B., 1998. Politiques économiques et relations de travail en Europe 1980-1990. In: Supiot A., ed. *Le travail en perspective*. Paris: Librairie générale de Droit et Jurisprudence, pp. 359-374

Hernandez Diaz J.-M., 1998. L'Université dans l'Espagne contemporaine (1812-1983). *Histoire de l'Education*, 78, pp. 31-56

Jobert A., Tallard M., 1997. Politiques de formation et de certification des branches professionnelles en France. *In*: Möbus M., Verdier E., eds. *Les diplômes professionnels en Allemagne et en France*. Paris: L'Harmattan, pp. 77-91

Kirsch E., 1989. Les CAP par unités capitalisables dans la sidérurgie: une conversion réussie. *Formation Emploi*, 32, pp. 7-18

Kirsch E., Peyrard C., 1991. Au nom des normes... De nouveaux opérateurs de la rationalisation du travail. *In*: PIRTTEM, CNRS, Université Lumière Lyon II, MRASH, eds. *Les rationalisations du travail*. Cinquièmes journées de sociologie du travail, Lyon, 13-14-15 November 1991

Kirsch J.-L., 1999. *Niveau de formation et marché du travail*: l'Europe des contrastes. Céreq-Bref, 151

Koch R., 1997. La rénovation des formations professionnelles réglementées: instrument majeur de modernisation du système dual depuis les années 1970. *In*: Möbus M., Verdier E., eds. *Les diplômes professionnels en Allemagne et en France*. Paris: L'Harmattan, pp. 29-44

Koch R., 1998. *La formation professionnelle duale et scolaire entre la demande de formation et les besoins de qualification. Synthèse d'une comparaison France-Allemagne*. Bonn: Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie

Koch R., Reuling J., 1999. *Structure of training levels – revisited. Initial and advanced vocational qualifications outside the tertiary sector*. Berlin: BIBB

Krekel E., Beicht U., Ulrich J., 1997. Attraktive Berufsperspektiven durch duale Sonderausbildungsgänge für Studienberechtigte. *In*: Beicht U. et al., eds., 1997. *Berufsperspektiven mit Lehre. Wert und Zukunft dualer Berufsausbildung*. Beiträge aus Berufsbildungswissenschaft und -praxis. Bielefeld: Bertelsmann, pp. 281-295

Lam A., 1998. *Tacit knowledge, organisational learning and innovation: a societal perspective*. Druid working paper No. 98-22. Aalborg: Danish research unit for industrial dynamics

Lechaux P., Barkatoolah A., 1994. *Evaluation du système de validation par unites capitalisables*. Final report. CPC Document, 5

Liaroutzos O., 1997. Du travail à la formation: la construction d'une relation dans le tertiaire administratif. *In*: Möbus M., Verdier E., eds. *Les diplômes professionnels en France et en Allemagne, conception et jeux d'acteurs*. Paris: L'Harmattan, pp. 209-228

Mandon N., Sulzer E., 1999. *Analysis of work: describing competences through a dynamic approach to jobs*. Training and employment, 33

Manzanares Núñez J., 1998. Cualificación, formación y classificación profesional. Notas para un debate. *Herramientas*, 53, pp. 38-44

Marsden D., 1989. *Marché du travail. Limites sociales des nouvelles théories*. Paris: Economica

Martinelli D., Simon-Zarca G., Werquin P., 1999. *Génération 92: profil, parcours et emploi en 1997*. Céreq-Bref, 149

Merle V., 1997. L'évolution des systèmes de validation et de certification. *Formation professionnelle*, 12, pp. 37-49

Ministère de l'emploi et de la solidarité, Secrétariat d'état aux droits des femmes et à la formation professionnelle, 1999. *La formation professionnelle. Diagnostics, défis et enjeux*. Paris: Secrétariat d'état aux droits des femmes et à la formation professionnelle

Möbus M., Verdier E., eds., 1997. *Les diplômes professionnels en France et en Allemagne, conception et jeux d'acteurs*. Paris: L'Harmattan

Moncel N., 1999. Réflexions sur le processus d'insertion: succession de moments ou construction sociale. *In:* Degenne A., Lecoutre M et al., eds. *Insertion, transition professionnelle et identification de processus*. Marseilles: Céreq, pp. 241-254

Muñoz V.,1997. L'entreprise espagnole face au nouveau système de formation professionnelle. *Formation professionnelle*, 12, pp. 50-55

Murray A., Steedman H., 1998. *Growing skills in Europe: the changing skills profile of France, Germany, the Netherlands, Portugal, Sweden and the UK*. Discussion paper 399. London: Centre for Economic Performance

Pastré P., Samurçay R., Bouthier D., eds., 1995. Le développement des compétences. Analyse du travail et didactique professionnelle. *Éducation permanente*, 123

Penso-Latouche A., ed., 1998. Identifier et décrire les compétences professionnelles. *In*: CNPF. *Objectif Compétences, Journées internationales de la formation*, Deauville, 7, 8, 9 October 1998. Vol. 4

Périsse M., 1998. La certification d'entreprise: héritage désuet ou nouvelle règle de gestion de la main-d'oeuvre? *Formation Emploi*, 63, pp.27-41

Pinel D., 1988. L'élaboration d'une carte des emplois à l'établissement de Pierrelatte, Cogema. *Actualité de la formation permanente*, 97, pp. 81-96

Roman P., 1998. Une expérience pilote de validation des acquis expérientiels en France. *In*: Conseil de l'Education et de la formation. *Validation des compétences*, Proceedings of the seminar of Friday, 24April1998. Brussels: Conseil de l'Éducation et de la formation, pp. 23-27

Reboud L., ed., 1997. *La relation de service au coeur de l'analyse économique*. Paris: L'Harmattan

Reynaud B., 1988. Le contrat de travail dans le paradigme standard. *Revue française d'économie*, 4, pp. 158-194

Ropé F., Tanguy L., eds, 1994. *Savoirs et compétences. De l'usage de la notion dans l'école et l'entreprise*. Paris: L'Harmattan

Roure N., 1998. Eurocertification. Rapport de contextualisation pour l'Espagne. *In*: CEREQ. *Eurocertification*. Interim report. Marseilles: Céreq, unpublished, pp. 25-36

Sanderson M., 1993. Vocational and liberal education – a historian's view. *In*: Wolf A., ed. *Proceedings No1: parity of esteem. Can vocational awards ever achieve high status?* London: University of London – International centre for research on assessment, Institute of Education, pp. 53-65

Savoyant A., 1996. *Une approche cognitive de l'alternance*. Céreq-Bref, 118

Savoyant A., 1999. Compétence, performance et activité. *In: Entreprise et compétences: le sens des évolutions*. Paris: les Cahiers du Club CRIN, Association ECRIN

Scherer S., 1999. Early Career Patterns – A comparison of the United Kingdom and West Germany. *In*: Degenne A., Lecoutre M et al., eds. *Insertion, transition professionnelle et identification de processus*. Marseille: Céreq, pp. 327-350

Schmidt J., 1998. Eurocertification. Rapport de contextualisation pour l'Allemagne. *In*: CEREQ. *Eurocertification*. Interim report. Marseilles: Céreq, unpublished, pp. 20-24

Scottish Qualifications Authority, 1997. *Identification, validation and accreditation of prior and informal learning*. United Kingdom report. [online]. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Sellin B., 1994. *Formation européenne en Europe: vers sa modularisation. Contribution à la discussion*. [online]. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Solar C., 1995. Problématique de la reconnaissance des acquis et 'Question de compétences'. *In*: Menard J.-Y., ed. *Reconnaissance des acquis et validation des compétences*. International Symposium organised by LESSOR and GOGEF, University of Rennes, 11 and 12 December 1992. Rennes: Presses universitaires de Rennes (PUR), pp. 79-93

Spence M.A., 1974. *Market signaling: informational transfer in hiring and related screening processes*. Cambridge: Harvard University Press

Steedman H., 1996. La problématique. *In*: Bertrand O., Duran-Drouhin M., eds. *Qualifications et compétences professionnelles dans l'enseignement technique et la formation professionnelle*. Evaluation et certification. Paris: OECD, pp. 15-40

Stoeffler-Kern F., Tchibozo G., 1999. Signaux non standards et insertion professionnelle. *In*: Degenne A., Lecoutre M. et al., eds. *Insertion, transition professionnelle et identification de processus*. Marseilles: Céreq, pp. 351-360

Supiot A., 1994. *Critique du droit du travail*. Paris: Presses universitaires de France

Supiot A., ed., 1998. *Le travail en perspective*. Paris: Librairie générale de Droit et Jurisprudence

Tanguy L., ed., 1986. *L'introuvable relation formation / emploi. Un état des recherches en France*. Paris: La documentation française.

Tanguy L., ed., 1991. *Quelle formation pour les ouvriers et les employés en France*. Paris: La documentation française

Tiegens H., Hirschmann G., Bianchi M., 1974. *Ansätze zu einem Baukastensystem*. Werkstattbericht über die Entwicklung des Zertifikatsprogramms der Volkshochschulen. Braunschweig: GeorgWestermann

Tooley J., 1993. *A market-led alternative for the curriculum: breaking the code. The London file*. Papers from the Institute of Education. London: the Tufnell Press

United States Department of Labor, Employment and Training Administration. *Skill Standards Fact Sheet* [online]. Training technology resource centre [cited 19.02.99]. Available on the Internet: http://www.doleta.gov

Veneau P., 1997. Construction des référentiels et analyse prospective du travail: l'exemple de l'usinage mécanique. *In*: Möbus M., Verdier E., eds. *Les diplômes professionnels en France et en Allemagne, conception et jeux d'acteurs*. Paris: L'Harmattan, pp. 163-173

Veneau P., Charraud A-M., Personnaz E., 1999. Les certificats de qualification professionnelle concurrencent-ils les diplômes? *Formation Emploi*, 65, pp. 5-21

Vergnaud G., ed., 1992. *Approches didactiques en formation d'adultes*. Education permanente, 111

Vinokur A., 1995. Réflexion sur l'économie du diplôme. *Formation Emploi*, 52, pp. 151-183

Wolf A., 1996. *Competence-based assessment*. 2nd ed., Buckingham; Philadelphia: Open University Press

Wolf A., 1997. Growth stocks and lemons: diplomas in the English market-place 1976-1996. *Assessment in education*, 1, pp. 33-49

Young M., Leney T., 1998. Rapport de contextualisation. Royaume-Uni. *In*: CEREQ. *Eurocertification*. Interim report. Marseilles: Céreq, unpublished, pp. 51-63

Bibliography

Ahola S., Kankaanpää A., 1995. Current and future demand for graduates: problems of comparative analysis. *European Journal of Education*, 2, pp. 187-202

Barnett R., 1994. *The limits of competence. Knowledge, higher education and society*. Buckingham: Open University Press

Béduwé C., Espinasse J.-M et al., 1995. Insertion professionnelle, diplômes et marché du travail. Pour une étude européenne. *Note du LIHRE*, 195 (95-16)

Bergan S., Beridze D. et al., 1996. Reconnaissance académique des diplômes. *Enseignement supérieur en Europe*, 4, pp. 9-137

Bertrand O., Santelmann P., eds., 1995. *Rapport du groupe de travail 'analyse critique du système français de validation et de certification'*. Paris: Délégation à la Formation professionnelle

Bundesinstitut für Berufsbildung, 1998. *Lernen im Prozeß der Arbeit*. Berlin: BIBB

Bjørnavold J., 1997. *Identification and validation of prior and informal learning: experiences, innovations and dilemmas*. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Bjørnavold J., 1997. Une question de foi? Les méthodes et les systèmes d'évaluation des acquis non formels exigent des bases légitimes. *Formation professionnelle*, 12, pp. 74-81

Bremer R., 1996. Modellversuche zu Doppelqualifikationen im schulischen Bereich von 1975 bis 1995: Bildung theoretischer Begründungen und Erfahrungen. *Modellversuche zur beruflichen Bildung*, 40, pp. 152-166

Casal J., 1997. *Modos emergentes de transicion a la vida adulta*. REIS, Revista española de investigacion, 75

Casal J. *La interrelacion entre los tres subsistemas de formacion profesional en España*. Barcelona: GRET – Institut de ciences de l'Educacio

Cedefop, ed., 1998. *Vocational education and training: the European research field*: Background report 1998. Luxembourg: Office for Official Publications of the European Communities

CEREQ, 1996. *Groupe de travail 'certification'*. Meeting of 22 October 1996. Volume1: dossier preparatoire. Volume 2: compte rendu. Marseilles: Céreq

Charraud A.-M., Bouder A., Kirsch J.-L., 1995. *Le titre, la compétence, l'emploi: normes et usages de la certification*. Céreq-Bref, 114

Charraud A-M., Personnaz E., Veneau P., 1998. *Les certificats de qualification professionnelle (CQP). Construction des référentiels et mise en oeuvre dans la métallurgie, la plasturgie et l'agro-alimentaire*. Marseilles: Céreq

Cherkaoui M., Vallet L-A., eds., 1995. Mobilité sociale. Histoire, outils d'analyse et connaissance de la société française. *Revue Française de sociologie*, 1, pp. 1-225

Chrosciel E., Plumridge W., 1995. *Training for occupational flexibility: outcome of ILO case-studies from enterprises and institutions in Germany, Sweden, Switzerland and the United Kingdom*. Geneva: ILO

Collingro P., Heitmann G., Schild H., 1997. *Identifizierung, Bewertung und Anerkennung von fruher und informell erworbenen Kenntnissen. Deutschland*. [online]. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Commission of the European Communities, 1996. *Proposal for a European Parliament and Council Directive establishing a mechanism for the recognition of qualifications in respect of the professional activities covered by the directives on liberalisation and transitional measures and supplementing the general systems for the recognition of qualifications*. 8 February 1996. Luxembourg: Office for Official Publications of the European Communities

Conseil de l'Éducation et de la formation, 1998. *Validation des compétences*, Proceedings of the seminar of Friday, 24 April 1998. Brussels: Conseil de l'Éducation et de la formation

Debaty P., 1993. *Systèmes et procédures de certification des qualifications en Belgique*: national report. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Debaty P., Delcourt J. et al., 1997. *La place de l'entreprise dans les processus de production de la qualification. Effets formateurs de l'organisation du travail*. Belgique. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Erbes-Seguin S., Gilain C. et al., 1990. Les interventions de l'état en matière d'emploi. L'exemple de la formation professionnelle en France et en République Fédérale d'Allemagne. *Sociétés contemporaines*, 4, pp. 123-140

Eraut M., 1994. *Developing professional knowledge and competence*. London: The Falmer Press

Eraut M., ed., 1994. *Development of knowledge and skills in employment*. Brighton: University of Sussex, Institute of Education

Eraut M., Steadman S., 1999. *Evaluation of level 5 management S/NVQs*. Final report 1998. Brighton: University of Sussex, Institute of education

Feutrie M., 1997. *Identification, validation et accréditation de l'apprentissage antérieur et informel*. France. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Friede C. K., 1996. Beurteilung beruflicher Handlungskompetenz. *Berufsbildung*, 38, pp. 5-10

Ginisty D. et al., 1997. Reconnaitre et valider les acquis tout au long de la vie. *Entreprises Formation*, 98, pp. 19-31

Gipps, C., 1996. *Assessment for the millennium: form, function and feedback*. Based on an inaugural lecture. London, University of London, Institute of Education

Girod de L'Ain B., 1994. Modular or general certification: which system should be used for students in Europe? *European Journal of Education*, 4, pp. 399-413

Girod de L'Ain B., 1996. *L'avenir des universités européennes. Comment va-t-on diplômer les étudiants? L'impossible statu quo. Des dysfonctionnements aux objectifs*. Les dossiers d'éducation et formations, 68

Grootings P., ed., 1994. *Les compétences: le mot et les faits*. Formation professionnelle, 1

Guereña, J.-L., ed., 1998. *L'enseignement en Espagne: XVIe-XXe siècles*. Histoire de l'éducation, 78

Habermas J., 1976. *Connaissance et interêt*. 3rd ed. Paris: Gallimard

Heidegger G., Rauner F., 1999. *Vocational education in need of reforms*. Düsseldorf: Ministerium für Wirtschaft und Mittelstand, Technologie und Verkehr des Landes Nordrhein-Westfalen

Hogart T., Lindley Robert M., 1994. *Employers' approaches to vocational education and training: reflections on provision and regulation in France, Spain and the United Kingdom*. Warwick: University of Warwick, Institute for Employment Research

Institut des Sciences du Travail (IST), 1994. *Les mutations du système productif. Enjeux des compétences et de la formation*. Dossier No 15. Louvain-La-Neuve: Université catholique de Louvain

Kirsch E., 1998. *Les nouveaux territoires de l'enseignement technique*. Céreq-Bref, 145

Kvale S., 1993. Examinations reexamined. *In*: Chaiklin S., Lave J., eds. *Understanding Practice*. Cambridge

Leonardo da Vinci national coordination unit, 1998. *New ways of accrediting the skills and the competences acquired through informal learning*. Dublin: Leonardo NCU

Liaroutzos O., Mandon N., Sulzer E., 1997. *Analyse du travail et élaboration de référentiels d'activités professionnelles: principes méthodologiques dans le cadre de la validation des acquis professionnels*. Marseilles: Céreq

Lindley Robert M., 1991. Interactions in the markets for education, training and labour: a European perspective on intermediate skills. *In*: Ryan P., ed. *International comparisons of vocational education and training for intermediate skills*. Basingstoke: Falmer Press, pp. 185-206

López Quero M., Martinez López F., 1995. *Systems and procedures of certification of qualifications in Spain*. 2nd ed. Luxembourg: Office for Official Publications of the European Communities

Makinen R., Taalas M., eds, 1993. *Producing and certifying vocational qualifications*. Publications series B: theory into practice 83. Jyvaskyla: Institute for educational research, University of Jyvaskyla

215

Mallet L., ed., 1996. Diplômes, compétence et marché du travail. *Note du LIHRE*, 228 (96-28)

Masjuan J.M. *Diplomes i mercat de treball (segona fase)*. Barcelona: GRET – Institut de ciences de l'educacio

Masjuan J.M. *Diplomes i mercat de treball (tercera fase)*. Barcelona: GRET – Institut de ciences de l'educacio

Menard J.-Y., ed., 1995. *Reconnaissance des acquis et validation des compétences*. International Symposium organised by LESSOR et GOGEF, University of Rennes, 11 and 12 December 1992. Rennes: Presses universitaires de Rennes (PUR)

Merle V., 1998. L'évolution des systèmes de validation et de certification. Quels modèles possibles et quels enjeux pour la France?. *Actualité de la formation permanente*, 153, pp. 54-63

Miller R., 1996. *Mesurer le capital humain. Vers une comptabilité du savoir acquis*. Paris: OECD

Ministère de l'Éducation, de la Recherche et de la Formation, 1993. *Dispositions législatives, décrétales et réglementaires relatives à l'enseignement supérieur. La problématique de l'équivalence des diplômes en Belgique et dans le contexte européen*. Documentation titre V. Brussels: Direction générale des affaires budgétaires et financières, Service de documentation et des statistiques générales et pédagogiques, Centre de documentation administrative

Ministère de l'Enseignement supérieur et de la recherche, Direction des Enseignements supérieurs; Université des Sciences et technologies de Lille, 1993. *Validation des acquis professionnels*. Proceedings of seminars. Villeneuve d'Ascq 14 & 15 January 1993. Paris: Délégation aux Formations supérieures et à l'Emploi

Munch J., Henzelman T., 1993. *Systems and procedures of certification of qualifications in the Federal Republic of Germany*: national report. Cedefop. Luxembourg: Office for Official Publications of the European Communities

OECD, Directorate for Education, Employment, Labour and Social Affairs; Portuguese Ministry of Education, 1992. *Le rôle nouveau de l'enseignement technique et de la formation professionnelle (VOTEC)*. Seminar of 27 to 30 October 1992

Oliveira J., ed., 1995. *Occupational standards: international perspectives*. Columbus: Center on education and training for employment

Ourtau M., 1996. Opportunité de création des diplômes en France et en Allemagne. *Note du LIRHE*, 222 (96-22)

Paddeu J., Charraud A.-M., 1999. *Reconnaissance et validation des acquis dans le contexte de la formation*. Synthèse documentaire. Marseilles: Céreq

Pair C., ed., 1998. *Itinéraires et participation dans l'enseignement technique et la formation professionnelle*. Paris: OECD

Périsse M., 1998. La certification d'entreprise: héritage ou nouvelle règle de gestion de la main-d'fiuvre? L'exemple d'un groupe chimique. *Formation Emploi*, 63, pp. 27-41

Planas J., 1998. *AGORA-1: l'augmentation du niveau de diplômes et sa diffusion sur le marché du travail : leçons du passé et questions de prospective*: Thessaloniki, 30 June 1997. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Polanyi M., 1967. *The tacit dimension*. New York

RER – Réseau en reconnaissance des acquis; Université des Sciences et technologies de Lille, 1996. *Journées nationales de la validation des acquis professionnels*, Lille, 3 and 4 December 1996

Resnick L., 1994. *Performance puzzles: issues in measuring capabilities and certifying accomplishments. Project 2.3, Complex performance assessments*. Los Angeles: National center for research on evaluation, standards and student testing

Rothe Georg., 1995. *Die Systeme beruflicher Qualifizierung Frankreichs und Deutschlands im Vergleich. Übereinstimmungen und Besonderheiten in den Beziehungen zwischen den Bildungs- und Beschäftigungssystemen zweier Kernländer der EU*. Beiträge zur Arbeitsmarkt- und Berufsforschung, 190. Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung

Sellin B., 1998. *Coopération dans la recherche sur les tendances de l'évolution des professions et des qualifications dans l'Union européenne*. Rapport sur l'état actuel, les resultats et le développement du réseau Ciretoq du Cedefop. Cedefop. Luxembourg: Office for Official Publications of the European Communities

216

Spours K., Young M., 1988. *Beyond vocationalism. A new perspective on the relationship between work and education*. Working paper 4. London: University of London, Centre for Vocational Studies. Unpublished

Steedman H., 1994. Séminaire Formation-Emploi: *La formation professionnelle des jeunes en Grande-Bretagne, en France et en Allemagne*. Thursday, 10 March 1994 in Marseilles. Marseilles: Céreq

Stroobants M., 1993. *Savoir-faire et compétences au travail. Une sociologie de la fabrication des aptitudes*. Brussels: Editions de l'Université de Bruxelles

Tessaring M., 1998. *Formation pour une société en mutation. Rapport sur la recherche actuelle en formation et enseignement professionnel en Europe* 1998. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Université des sciences et technologies de Lille, 1996. *La validation des acquis professionnels dans l'enseignement supérieur. Bilan, enjeux, perspectives*. National meeting of 3 and 4 December 1996

Vygotski, L., 1997. *Pensée et langage*. 3rd ed. Paris, La Dispute

Ward C., 1994. *Systèmes et procédures de certification des qualifications au Royaume-Uni*. Cedefop. Luxembourg: Office for Official Publications of the European Communities

Wolf A., ed., 1993. *Proceedings n° 1: parity of esteem. Can vocational awards ever achieve high status ?* London: University of London – International centre for research on assessment, Institute of Education

Wolf A., 1998. Portfolio assessment as national policy: the National council for vocational qualifications and its quest for a pedagogical revolution. *Assessment in education*, 3, pp. 413-445

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The changing institutional and political role of non-formal learning: European trends

Jens Bjørnåvold

Abstract

This contribution discusses the theoretical basis and main European initiatives in the area of identification, assessment and recognition of non-formal learning. Over the past few years most EU Member States have emphasised the crucial role of learning that takes place outside of and in addition to formal education and training. This emphasis has been followed by an increasing number of political and practical initiatives, gradually moving the issue from the stage of pure experimentation to early implementation. The task is challenging because developments in a number of settings, at European, national, sectoral and enterprise levels have to be considered. The interplay between these settings has not yet been extensively explored; the challenge is to see whether there is a common core to be extracted from this wide range of initial experience.

Table of contents

1. Introduction 215

2. Theoretical pretext 215
2.1 The contextual and tacit character of non-formal learning 216
2.2 The need for legitimacy and social acceptance 217

3. European trends: Developments at national level 219
3.1 Non-formal learning in the context of the dual system: Germany and Austria 221
3.1.1 Germany 221
3.1.2 Austria 223
3.1.3 Conclusions 225
3.2 Non-formal learning in the Mediterranean context: Greece, Italy, Spain and Portugal 226
3.2.1 Greece 226
3.2.2 Italy 227
3.2.3 Spain 229
3.2.4 Portugal 230
3.2.5 A Mediterranean model? 232
3.3 Non-formal learning in the Nordic context: Finland, Norway, Sweden and Denmark 233
3.3.1 Norway 233
3.3.2 Denmark 235
3.3.3 Finland 236
3.3.4 Sweden 237
3.3.5 A Nordic model? 238
3.4 The influence of the NVQs: UK, Ireland and the Netherlands 239
3.4.1 United Kingdom 239
3.4.2 Ireland 240
3.4.3 The Netherlands 241
3.4.4 An NVQ model? 241
3.5 A French model? France and Belgium 242
3.5.1 France 242
3.5.2 Belgium 244

4. European trends: Developments at EU level 245
4.1 The White Paper on 'Teaching and learning: towards the learning society' 245
4.2 The follow up of the White Paper proposals on assessing competences 247
4.3 Conclusions 249

5. Conclusion 249

Bibliography 251

1. Introduction

This contribution aims at providing an overview on some of the main European tendencies in the area of identification, assessment and recognition of non-formal learning.[1] This is a difficult yet challenging task. The task is *difficult* because the rate of change and innovation, in terms of methodologies, institutions and policies, is very high. During the past few years most Member States of the EU have emphasised the crucial role of learning that takes place outside of and in addition to, formal education and training. This emphasis has led to an increasing number of political and practical initiatives, gradually shifting the issue from the stage of pure experimentation to that of early implementation. The task is *challenging* because of developments in a number of settings at European, national, sectoral and enterprise levels. The interplay between these levels has not been focused upon very much and the challenge is to see whether there is a common core of experience to be extracted from this heterogeneous body of experimentation.

In the White Paper on 'Teaching and learning' presented by the European Commission at the end of 1995, the idea of a common European approach in the area of identification, assessment and recognition of non-formal learning was presented. Consisting of a 'personal skills card' and operating within the framework of a 'European skills accreditation system', the ambition of this proposal was to develop an instrument making it possible to broaden the range of skills utilised by individuals, enterprises and in society at large. This ambition of creating one single instrument has not been fulfilled. Notwithstanding a high number of pilot projects focusing on technological and organisational issues at stake (in the Leonardo da Vinci, Socrates and Adapt programmes), neither the 'personal skills card' nor the 'European skills accreditation system' have been transformed into actual tools operating at European level. The main developmental thrust can be observed at national, and to a growing extent, at sectoral and enterprise levels. This may be looked upon as a reflection of the need to tailor methodological and institutional solutions to specific needs and users. The needs of an enterprise may differ entirely from those of national education and/or labour authorities and individual needs may differ from those of branches and sectors. This leaves us with a paradox. Assessment methodologies are developed to make non-formal competences more visible and make it easier to transfer them from one context to another. The development of a high number of national/sectoral and enterprise-based methodologies tailored to specific and limited needs may contradict the general objective of increased transparency and transferability. This paradox cannot be fully solved at national, sectoral or enterprise levels. Whether it is possible to find European solutions (through some form of common framework linking otherwise separate initiatives together), is an open question.

This contribution is divided into four parts. The first part treats basic theoretical issues linked to the character of non-formal learning and the political implications of setting up systems in this area. The second, and by far the largest part, outlines initiatives and developments in Member States. The third part presents and discusses initiatives at EU level, concentrating on the message of the White Paper on 'Teaching and learning' (European Commission 1995) and on experiences from the Leonardo da Vinci programme. Concluding remarks are presented in the fourth and last part.

2. Theoretical pretext [2]

Identification, assessment and recognition of non-formal learning is very much a practical

[1] The term non-formal learning encompasses informal learning which can be described as unplanned learning in work situations and elsewhere, but also includes planned and explicit approaches to learning introduced in work organisations and elsewhere, not recognised within the formal education and training system.

[2] This chapter is a direct continuation of the contribution to the 1998 research report on the issue of non-formal learning. While the 1998 contribution focused on basic methodological and institu-

issue. Methodologies have to be simple and inexpensive and they have to be based on a clear notion of how technical, institutional and political responsibilities are to be shared. This requires a profound understanding of non-formal learning. By highlighting some of the theoretical aspects involved, we hope to be able to clarify some of the practical challenges faced.

2.1 The contextual and tacit character of non-formal learning

To develop methodologies actually able to capture the learning that takes place outside formal education and training institutions in a valid and reliable way, some basic characteristics of learning need to be explored. Firstly, learning is *contextual* in its character. When taking place in social and material settings, knowledge and competences are very much the result of participation in 'communities of practice' (Lave and Wenger 1991). Frequently, learning has been conceived as a process by which the learner 'internalises' knowledge, whether 'discovered', 'transmitted' or 'experienced' in interaction with others. But learning cannot be reduced to passive reception of 'pieces' of knowledge. This focus on internalisation establishes a sharp division between inside and outside, and suggests that learning is exclusively something happening inside the brain in some cerebral process, and takes the individual as a non-problematic unit of analysis. Accordingly, learning is reduced to a process of absorption, a matter of transmission and assimilation. The alternative approach formulated by Lave and Wenger provides a potentially better basis for understanding and identifying various aspects of learning and knowledge-formation. This shift in perspective implicates a focus not only on the relational (the role of the individual within a social group) but also the negotiated, the concerned and the engaged nature of learning (the communicative character of learning). The individual learner is not gaining a discrete body of abstract knowledge that he or she will reapply in later contexts. Instead, he or she acquires the skill to perform by actually engaging in an ongoing process of learning. Learning is thus not only reproduction, but also reformulation and renewal of knowledge and competences. As Engeström (1993, 1994) has underlined, facing a new situation or an unexpected problem, a learner cannot rely only on the established basis of competences, but must try to find new solutions and develop alternative practices. This corresponds to Herbert Simon (1973) who points out that ill structured problems are more common than well structured problems in organisations. The successful learner must not only be able to reproduce competences already existing in a community of practice, but must also be able to question and improve these practices. Following Engeströms 'expansive' learning model we can identify a number of elements that should be reflected in assessment methodologies:

- the ability to question established facts;
- the ability to define and clarify problems;
- the ability to cooperate and find possible solutions; and,
- the ability to formulate and implement solutions.

These are important aspects of competent behaviour in a work setting. *The ability to learn* is thus emphasised as the most important quality, even more important than the specific bits and pieces of knowledge and experience being learned. Returning to the issue of developing assessment methodologies, this points to the need for balance between the attention given to learning abilities and factual competences. Learning how to learn, including learning how to approach unexpected problems, are key elements to be addressed by any methodology in the attempt to capture non-formal learning.

tional challenges confronting the development and implementation of methodologies for assessment and recognition of non-formal learning, this year's contribution tries to sum up the initiatives actually taken in the EU Members States. As the basic methodological and institutional challenges are important to understanding the practical initiatives, the first part of the contribution sums up the main points made in 1998.

Second, competences are partly *tacit* (Polanyi 1967) in their character. This means that it is difficult to verbalise and delimit the single steps or rules intrinsic to a certain competence. In some cases, people are not even aware of being in possession of a competence. This is an element of high relevance to the task of assessing non-formal learning, and has to be reflected by the methodologies. Most of us know how to ride a bicycle but we face great difficulties when trying to formulate the specific rules intrinsic to this competence. The 'know-how' in question has been acquired through practice and painful experience. An experienced carpenter knows how to use a tool in ways that escape verbalisation. Normally we take this know-how so much for granted that we do not appreciate the extent to which it pervades our activities. This is perhaps most apparent in situations where this know-how deserts us, when our intuitive and non-reflective attitude towards these activities for some reason or another is interrupted. An important part of what we include in the term non-formal learning belongs to this area of implicit know-how. An experienced worker facing a new situation or a new problem will normally, without giving it much thought, be able to make use of his or her accumulated reservoir of abstract knowledge and concrete experiences. To transform tacit, implicit and intuitive knowledge into officially stamped elements of knowledge is difficult and full of risks. Difficult because we enter an area partly evading descriptions, full of risks because we might end up with misconstructions of the know-how we intend to capture. In addition, whether the tacit know-how can be captured in formal descriptions is also a question of economic and practical feasibility: how much time and resources should be spent on assessing each individual?

Thus, the quality of assessments relies on a number of factors. Methodologies have to reflect and balance the individual and contextual as well as the tacit and implicit character of non-formal learning. Testing within a formal education and training setting is normally judged according to the criteria of reliability (consistency) and validity. These criteria are just as important within the setting of non-formal learning but in many ways even more difficult to achieve than in the setting of formal education and training. The question of validity is crucial as methodologies have to be able to capture the variety and heterogeneity of learning paths and learning results. Surrounded by constraints imposed by limited time and resources, methodologies must be able to combine the need for standardisation and simplification with an open attitude towards the non-standard and what is specific to an individual or a group. Proper 'measurement' implies openness for the richness and complexity of learning; maps should be drawn according to the terrain, the terrain should not be described to fit the map. To find the balance between optimal validity (to pursue perfect validity implies endless assessments), necessary standardisation and simplification, is the basic challenge. The question of reliability (and consistency), is also of crucial importance. Users must be confident that results can be compared and that unfair variations in assessment practices have been avoided as far as possible. A situation where candidates are treated differently due to unclear procedures and varying interpretations of procedures by assessors, risks a threat to the legitimacy of the system.

Generally speaking, the challenge of assessing non-formal learning consists of capturing, on a piece of paper, learning results specific to individuals and contexts. This has to be done within a procedural setting aiming at standardisation and simplification (due to limited resources and legitimate demands for consistency). This balance of seemingly opposing principles is what makes the task a challenge for policy-makers, researchers and practitioners.

2.2 The need for legitimacy and social acceptance

The future role of systems for the assessment and recognition of non-formal learning cannot be limited to a question of methodological quality. While being important, reliable and valid methodologies are not sufficient to make individuals, enterprises and/or educational institutions trust and accept assessments. A number of political and institutional preconditions have to be met to attribute some ac-

tual value to the assessments in question. This can be done partly through political decisions securing the legal basis for initiatives but should be supplemented by a process where questions of 'ownership' and 'control' as well as 'usefulness' must be clarified. In this way, assessments of non-formal learning would be judged according to technical and instrumental criteria (reliability and validity), as well as normative criteria (legality and legitimacy). The acceptance of assessments of non-formal learning is not only a matter of their legal status but also of their legitimate status. As with ordinary certificates from the formal education and training system, the function of assessments of non-formal learning may be compared with money. Parsons has defined money as:

'...a code, providing certain information from holder to receiver. Money is valid in a certain set of standard situations, it must be based on a generalised value, accepted not only in a legal sense, but also on a popular basis, and it must be measurable'.

If we apply this perspective to assessments of non-formal learning several parallels appear. As with money, assessments can be understood as a code, providing information from holder to receiver. An individual applying for a job using assessments exemplifies this. Information is not enough, it must be presented in a specific code to be acceptable. As with money, assessments are valid in a predefined set of standard situations, e.g. in the labour market, within the hierarchy of an enterprise or in the system of education and training. Like money, assessments must also be based on some form of generalised legal and legitimate value. The competences in question must be accepted as potentially valid/useful outside their narrow context of origin. Only actual use can prove whether such a generalised value will actually be attributed to assessments of non-formal learning. Nobody can guarantee that the relative value of formal versus non-formal learning can be changed through the introduction of methodologies and systems for the assessment of non-formal learning. The strong links between formal education and social bargaining processes (which influence the setting of wages and access to jobs), illustrate the complexity involved in attributing generalised value to assessments of non-formal learning. Finally, as with money, assessments must be able to 'measure'. This means that both the quantitative (time, volume) and qualitative (content, profile) aspects of learning must be captured in as valid and reliable a way as possible.

Accordingly, assessments must be able to store information, measure the learning in question and signal the value attributed to it in the broader setting of the labour market, the education and training system and society in general. Unlike money, assessments cannot operate on the basis of a one-dimensional and quantified code, rather, they have to use written texts to capture the complexity of individually-held competences. The metaphor of money highlights the challenges facing this new 'currency'. First, interpreting assessments as a code transforming a complicated set of information (about learning) into a standardised and simplified language, points to the methodological paradoxes already discussed. If standardisation and simplification become too radical, the information value is reduced in such a way that the overall benefit is threatened. In this respect the difference between money and assessments is made clear. If the contextual, individual and tacit characters of non-formal learning are lost during the 'measurement process', the information value is reduced in a way which threatens the legitimacy of the exercise. The strength of money lies in its ability to simplify and standardise what would otherwise be a complicated process of barter and exchange. The weakness of assessments of non-formal learning may very well lie in the same need to simplify and standardise. Furthermore, the legitimacy and value of assessments will be defined through their actual use. Theoretically, these standard situations arise when individuals try to enter the labour market, or access certain levels of the education and training system or improve their position in the internal job-hierarchy of an enterprise.

Questions of legitimacy and acceptance rely partly on political and legal actions by the State or some other authority. The setting up

and 'design' of institutions and political processes are thus of equal importance to the methodological considerations outlined above. In other words, a perfect methodology is of no value if not working in tune within legitimate institutional and political settings. It would be naïve to think that institutional design can provide a complete solution, it would however be equally naïve to overlook the potential importance of such an approach. The following criteria need to be considered when constructing the institutional basis for the new methodologies:

- relevant participants must be heard;
- relevant information must be delivered;
- different interests should be balanced.

Acceptance implies a shared and balanced ownership between representatives of the formal education and training system and representatives of enterprises and trade unions. So far, the institutional and political aspects of assessing non-formal learning have been left untouched to a large extent. This may be due to the fragmentary status and novelty of initiatives in this area. The issue has been looked upon as not very controversial, something everybody can agree on. In a situation where methodologies and systems for the identification, assessment and recognition of non-formal learning mature, covering larger groups of the population, this may change. Such a situation could increase the general value of competences acquired outside formal education and training institutions and affect collective bargaining, both in terms of setting wages and access to jobs.

3. European trends: Developments at national level

In 1994, according to Eurostat (1997), almost 25% of the entire European population was enrolled in some form of education and training (all levels included). The growth of specialised and institutionalised training is one of the most distinct characteristics of European societies today. Against this background, growing interest in learning taking place outside the formal education and training domain may seem paradoxical. In a situation where national education and training systems face overcapacity and where highly educated people face unemployment, the sense in putting resources into systems of 'assessment and recognition of informal and non-formal learning' may seem questionable. This is, however, what is happening. During the past decade, a majority of EU Member States, together with countries outside the EU, have initiated work to establish methodologies and institutions facilitating identification, assessment and recognition of learning taking place outside formal education and training institutions. Pioneered by France (the Law on *Bilan de competence* of 1985 and the Law of 1992 on the 'Validation of skills acquired by work experience'), attention on these issues has been strengthened year by year. The purpose of this report is to provide an updated picture as well as an interpretation of this trend.[3]

From the outset, it is possible to conclude that no common European approach currently exists. The fact that initiatives have been taken at different points in time and within the context of different systems of education and training leaves us with a heterogeneous mix of national and sectoral approaches. What is important is that most initiatives seem to focus on the same challenges. Firstly, the reorientation of formal (especially vocational) education and training, from strictly input-oriented to output-oriented systems is important to understand activities. In countries like the UK and Finland, it is emphasised that what matters are the competences, not how you have acquired them. By accepting alternative pathways to learning, in addition to the ones provided within formal schemes, the question of assessment becomes a central one. Secondly, the growing emphasis on lifelong

[3] Our presentation is based on material gathered within the framework of the Cedefop project on 'Identification, assessment and recognition of non-formal learning', initiated in 1997. A total of 15 studies have been commissioned to research institutions in 14 countries, and this report represents a first attempt to bring together the results of this work.

learning implies a stronger focus on the link between different forms of learning in different areas at different stages of life. While the formal system is still very much focused on initial education and training, a lifelong learning system has to face the challenge of linking a variety of formal and non-formal learning areas. This is necessary to meet the individual need for continuous and varied renewal of knowledge and the enterprise's need for a broad array of knowledge and competences – a sort of knowledge reservoir to face the unexpected. Also in this context, the question of identification, assessment and recognition is crucial. Competences have to be made visible if they are to be fully integrated into such a broader strategy for knowledge reproduction and renewal.

More or less explicitly, these two challenges are emphasised in all the countries studied. In some countries, methodologies for the identification, assessment and recognition of non-formal learning are looked upon as necessary tools to open up these new pathways. But the issue should not be limited to how to modernise and vitalise existing systems for education and training, the methodological and institutional experimentation may also be looked upon as a reflection of basic changes in our understanding of learning and competences. Closely related to the unprecedented growth in formal education and training (see above), a growing scepticism towards the output of the formal system can be detected. It is questioned whether a harmonised system of mass education is able to serve the needs of societies becoming increasingly complex, both in the technological and organisational sense. Traditionally, formal education and training systems were important vehicles not only for the reproduction and renewal of competences, but also for the selection for jobs and positions. In a situation where many European countries combine mass education with mass unemployment, the role of education as a selection mechanism becomes more problematic. On the one hand, we can observe inflationary trends as the amount of education and training needed to compete on the labour market increases. On the other hand, 'more of the same' is not necessarily what is asked by a labour market facing rapid changes and growing uncertainty. As long as the challenge is to select individuals with the most relevant competences, formal education and training systems may increasingly appear as insufficient and the need to utilise other sources becomes more urgent.

The initial focus of our work on this issue was a methodological one (Cedefop, Bjornavold, 1997): is it possible to measure learning taking place outside formal education and training in a reliable and valid way? The introduction of methodologies in this area can only be understood within a broader social and political context as a response to changing conceptions of education and training. This defines our main perspective when trying to overview developments in the EU/EEA context.

The European situation will be presented by looking at five country clusters. Even though countries within each cluster may differ somewhat in their methodological and institutional approaches and choices, geographical nearness as well as institutional closeness seem to motivate mutual learning. The overview presented in this chapter is limited in the sense that it basically focuses on initiatives at public level. As will be documented in later chapters, important additional initiatives have been taken at enterprise and branch levels, partly on an autonomous basis and partly supported by European programmes such as Leonardo da Vinci and Adapt.

We start by discussing the role of assessment and recognition of non-formal learning in Germany and Austria. Two basic questions define the scope of this presentation: why have so few initiatives been taken in these countries, and how does the dual system of vocational education and training influence work and initiatives in this field. In the second cluster, the approaches of the Mediterranean countries Greece, Spain, Italy and Portugal are discussed. These are countries where, due to weak vocational education and training traditions and systems, non-formal learning has played, and still plays, a crucial role. In a situation where formal education and training is generally being strengthened, the role

of non-formal learning is challenged and changed. In the third cluster of countries, Finland, Norway[1], Sweden and Denmark, we ask the question whether a Nordic model can be identified. The Nordic countries enjoy a long tradition of mutual learning in the area of education and training; whether this applies to assessment and recognition of non-formal learning is another question. In the fourth cluster of countries, United Kingdom, Ireland, and the Netherlands, we reflect on experiences within, as well as the influence of, the UK NVQ system (National Vocational Qualifications). The NVQ system has received much attention, not least from abroad. As a high-profile system emphasising modularisation and output, the NVQ system has, in spite of domestic criticism, become an important reference point in the international debate. Ireland and the Netherlands can be looked upon as countries where this influence has been strong, especially in the field of assessment and recognition of non-formal learning. The fifth and last cluster, France and Belgium, is defined on the basis of geographical nearness rather than a common approach towards non-formal learning. As already indicated, the topic of non-formal learning has moved into the forefront of the French debate on education and training during the past decade. Both in legal and practical terms, the French experience is important. In Belgium the issue of non-formal learning has only recently been introduced to the political agenda. In the Flemish part of the country, cooperation with the Netherlands has been initiated but it is still too early to say in which direction this country will move.

Due to differences between countries, the scope of the presentations as well as the level of detail varies somewhat. We attempt to cover three aspects. First, what is the role of non-formal learning within the existing political-institutional context? Second, is it possible to identify methodological and/or institutional initiatives in this area, established on a permanent basis? Third, is it possible to identify experiments, for example, projects aimed at the development of methodologies or institutions for the assessment and recognition of non-formal learning?

3.1 Non-formal learning in the context of the dual system: Germany and Austria

In Germany and Austria the issue of non-formal learning is a new and unresolved one. Five years ago it was hardly discussed. Today, a debate on the role of non-formal learning is gradually evolving. A number of experimental projects (in particular focusing on the needs of the unemployed, people reentering the labour market, etc.), have also been initiated, testing various approaches to assessment. The longer-term political-institutional consequences of this debate and experimentation are difficult to predict. We think, however, that these two countries, despite their reluctance, are interesting 'learning cases', illustrating the possibilities and potential as well as obstacles and problems in this area.

3.1.1 Germany

A number of factors explain why the issue of non-formal learning has so far played a limited role in Germany:

- direct demand for the assessment of non-formal learning has been low. The formal system of education and training is extensive and has for a long time covered substantial proportions of each age group. There is a very strong education and training fundament, reducing the number of people likely to ask for recognition of non-formally based competences;

- the education and training system is highly focused on initial education and training. Within the vocational field, the status of the dual system has been and still is very high. There is no tradition to follow other pathways to learning, especially outside the formal system;

- the fact that the dual system is based on a combination of school and work-based learning implies that the experiential part of learning is somehow included in the of-

[1] Norway has been included as the only non-member of the European Union in this study.

ficial model, reducing the need to assess non-formal learning acquired outside the formal system;

- the formal education and training system is based on *Berufsprofilen* (occupational profiles), representing a clearly defined set of qualifications/competences. Each *Berufsprofil* indicates what should be learned, how it should be learned and where this should take place. The profiles, which can be looked upon as the 'benchmark' of the system, can to a certain degree be seen as 'input-oriented'. By defining the 'correct' pathway to a certain qualification, they also exclude other pathways, for example (partly) based on non-formal learning;

- the concept of *Beruf* (occupation), following a successful completion of formal education and training, does not only specify a certain training approach, but is also linked to a certain wage level and a set of rules defining rights and responsibilities. This implies that the formal system is not only about knowledge and competences, but also a mechanism for defining the distribution of rights and returns. Consequently it is a way of defining the implicit value of different kinds of learning.

All together, these factors contribute to the high value attributed to formal certificates from the formal system. Enterprises and branches have also been reluctant to consider other learning pathways because of high unemployment rates. The topic of non-formal learning has been (and still is), looked upon with indifference. This indifference also seems to be linked to the high complexity of the existing system, alternatives are difficult to conceive in a situation where all steps are planned and described in detail and where professional status as well as wage level depends on following these steps. But as indicated, a change of attitude is taking place, and a growing awareness of non-formal learning can be explained through the following elements:

- the existing education and training system is accused of being too focused on initial training. The rigidity and inflexibility following this bias makes the system badly animated to support continuous training/retraining. The inclusion of non-formal learning has been introduced as a necessity to balance the current and exclusive focus on initial training;

- the development of the CVT system has not followed the highly structured and formalised model of initial training and education. On the contrary, this 'sector' is heterogeneous and subject to limited public or tripartite coordination. The link to the initial training system is weak and rather arbitrary. This state of affairs has underlined the importance of alternative pathways to learning; the fact that the need for competences cannot be entirely planned in advance, flexible learning models are prerequisites for successful learning;

- the lack of complementarity in initial and continuous training/education systems stresses the need for 'bridging' solutions which can utilise the growing CVT system in a more systematic way and link these elements to the existing initial training 'colossus'. Assessment methodologies, and institutions able to provide valid and reliable assessments of a wide range of competences from formal as well as non-formal sources, are essential if this bridging function is to be developed and established.

Increased flexibility through modularisation has been introduced as a key approach in this context. The main argument is that such a modularisation would link initial and continuing education and training in a better way. Candidates could enter and reenter education and training according to their own needs and assessment and testing would be limited to the modules in a more output-oriented way, leading to alternative paths to learning. Regine Görner, representative of DGB, stated in January 1999:

'Das Prüfungswesen wird sich entsprechend verändern müssen. Teilqualifikationen sind jeweils im Berufsbildungspass zu zertifizieren.

Die Abschlussprufung wird dadurch erheblich entschlackt, sogar überflüssig.[5]

This statement emphasises the need for a more flexible education and training approach where different levels and learning pathways can be linked together in a better way. The German case is important to understand the general context of non-formal learning. The starting point is not the methodologies, nor the questions of reliability and validity of measuring and assessing learning, but rather how overall change in education and training needs can be reflected within existing education and training approaches. The dual system was not intended to be a lifelong learning instrument, but an initial training instrument. In a situation where retraining and renewal of competences is emphasised, the weaknesses of this (in other respects very efficient), model appears. The questions are: how to open up the existing model; how to link to CVT, how to allow for a greater variety of pathways to the same qualifications and competences. Such a shift demands systems for assessment and recognition of non-formal as well as formal learning.

Notwithstanding reluctance to embrace initiatives supporting assessment and recognition of non-formal learning, we find elements in the German system linked to this idea. These arrangements illustrate that the issue of non-formal learning has been considered but within a limited scope and framework. The *Externenprüfung* (examination of external students) is perhaps the most important single element 'bridging' non-formal and formal learning and is a permanent element of the dual system. This test provides experienced workers with the right to take part in the final craft examination (*Abschlussprüfung*) together with those having followed the ordinary route through the dual system. Although important, the *Externenprüfung* only provides access to a test, it does not provide any independent or particular methodology aimed at the identification and assessment of the specific experiences. In this respect, the *Externenprüfung* is designed according to the content, principles and structure of the formal pathway. To put it another way, the competences acquired outside the formal system, irrespective of how different they are from those produced in the formal system, have to be presented and restructured (by the candidate) according to the principles of the formal system. This does not reduce the importance of the *Externenprüfung* as approximately 5% of all examinations within the German dual system are based on it annually.

In a number of experimental projects the needs of specific groups (unemployed, women trying to reenter employment, drop-outs from the formal system, etc.) were focused upon. A common objective shared by the majority of these projects is to improve access for these groups to continuing vocational education and training, and in some cases make it possible for them to reenter the initial training system. The project *Bildungspass-Qualifizierungspass* of 1974 is an exception. Working on the basis of more general objectives the *Bildungspass* can be described as a portfolio-approach trying to 'paint', via description and documentation, a broader picture of the competences held by an employee. Together with formal education and training the idea was to include a documentation of experience and practice thus giving a more complete picture of the person in question. The *Bildungspass* never became a success, and was eventually abandoned. Descriptions of single projects can be found elsewhere (Cedefop 1998a), and it should be emphasised that projects brought to our attention were initiated and financed by public institutions at regional, national or European levels. The last category of projects, notably through the Leonardo da Vinci and Adapt programmes have become increasingly important in this area. This is a phenomenon not limited to Germany, but can be found in most other countries covered (see Chapter 4).

3.1.2 Austria

The topic of assessment and recognition of non-formal has not received very much atten-

[5] The system of examinations will change. Partial qualifications will be individually certified and entered into a passport for vocational education and training. This will gradually make the final examinations less important, even superfluous.

tion in Austria and few practical initiatives can be identified. However, as in Germany, the issue is receiving growing attention. So far, the role of prior and non-formal learning has for the most part been touched upon in debates linked to the question of modularisation of education and training. While basically non-existent in initial education and training, modularisation has, to a limited degree, been introduced in continuing vocational training. These programmes (for example those organised by the *Berufsförderungsinstitut* (BFI) and the *Wirtschaftsförderungsinstitut* (WIFI)) have highlighted the need for alternative practices in the area of assessment and recognition of qualifications and competences. Following the trend observed in most European countries, this debate is closely linked to the overarching question of whether the existing system for education and training will be able to meet the requirements for a more 'flexible' system operating across traditional boundaries and levels. OECD commented on the Austrian education and training system in the following way (1995:84):

'In Austria, the idea that there is a time for acquiring knowledge and skills, if possible by obtaining formal qualifications, and a time for using this knowledge professionally, does not yet seem to be out of date.'

This statement reflects some basic characteristics of the Austrian approach to vocational education and training. Elements which explain why the debate on non-formal learning has been a marginal one until now also indicate a future role for methodologies and systems for the assessment and recognition of non-formal learning. These characteristics can be summarised in the following way:

- initial vocational education and training holds a very strong position. Still based to a large extent on the dual system (40% of each cohort still entering), the Austrian system can be described as highly specialised and formalised. Based on a complex legal and administrative body, the content of each occupational profile (*Beruf*) is prescribed in detail. Prescriptions also cover assessment and testing procedures as well as regulations concerning link/transfer to other occupational profiles and levels;

- the strong specialisation effect has resulted in rather narrow occupational profiles (currently, if all forms of education and training are included, approximately 700 profiles can be identified);

- the system is hierarchical in its character. No system of 'credit points' exists, meaning that a partially completed training at one level is not recognised. Continuation has to take place from the lower level;

- to a certain extent and due to the specialised nature of the system, 'career lock-ins' can be observed. A move from one career path to another, either in a horizontal or vertical fashion, is complicated;

- in contrast to initial vocational education and training, continuing vocational education and training has not been subject to much political attention and is far less regulated. The 'system' is characterised through competition between private actors and uncoordinated actions from a number of public bodies.

Following these points, the Austrian system for vocational education and training can be described as very advanced in terms of initial education and training. The dual system clearly supports a close interlink between formal schooling and work-based learning. Potentially this creates a strong foundation for the linking of formal and non-formal competences at later stages in life; the importance of work-based learning is clearly understood and appreciated. This potential has yet to be fully released. The lack of bridging mechanisms between initial and continuing vocational education makes any horizontal or vertical move between occupations and/or educational levels complicated. In short, systems for the recognition of partial qualifications or comptences have not been developed very much. The only exception to this was the introduction of the *Berufsreifeprüfung* in 1997. Candidates from the dual system can, by passing this test/assessment, be given access to higher education. The test focuses on

229

general subjects like mathematics, English and German. Non-formal learning in the sense used here is not a part of this test.

On the basis of the above situation representatives of the social partners and various institutions dealing with continuing education and training were asked to comment on the future prospects of systems for assessment and recognition of non-formal learning (Cedefop 1999a: op.cit.). This small survey reflects the main points made above but offers some interesting clues on future developments. The employers' representative expressed the clearest yet pessimistic view. According to him, competences acquired outside the formal system and not integrated into a formally recognised certificate will hardly be accepted. He concluded by saying:

'We are, I'm sorry to say, big formalists and take as our point of departure that anything not certified is not formally learned, and thus does not exist.'

The same attitude was expressed by others with several having difficulty seeing any positive role for such a system. The high quality and legitimacy of the initial training system was mentioned as a reason why recognition of partial and non-formal competences would be difficult to introduce in the Austrian context. This view was not, however, fully shared by the representatives of the employees, emphasising the potentially positive role of such systems for individuals applying for jobs. In general, recognition of non-formal learning is looked upon as a factor that can strengthen the position of the employee.

The general impression created by the interviews in Austria is one of reluctance: methodologies for the assessment of competences are partly looked upon as an Anglo-Saxon invention reflecting a situation where a relatively large part of the population has no proper vocational qualification basis. This, it was commented, is not the case in Austria where a completely different education and training approach has dominated for decades. However, almost all commentators are aware of the need for more flexible continuing vocational education and training. The need for a certain modularisation and thus new approaches to assessment and recognition seems to be partly accepted but clearly limited to the area of continuing vocational education and training.

To conclude, Austria can be described as one of the EU Member States where we find the most clearly expressed scepticism towards introducing methodologies and systems in this area. The paradoxes identified within the initial vocational education and training system, as well as between initial and continuing education and training, may lead to a stronger debate and to practical experimentation. For the time being, it is difficult to predict in which direction Austrian developments will go.

3.1.3 Conclusions

As seen, the German and Austrian approaches to the question of identification, assessment and recognition of non-formal learning are closely linked. It is interesting to note that the two countries where work-based learning has been most systematically integrated into education and training (through the dual system) have so far been very reluctant to embrace this new trend. On the one hand this reflects success; the dual system is generally viewed as successful both in terms of pedagogy (the combination of formal and experiential learning) and capacity (high proportions of the cohorts covered). The need for new assessment methodologies is not acknowledged. The success of the dual system may further be seen as the source from where increasing attention to assessment and recognition of non-formal learning springs. Focusing mainly on young people however, and the reproduction of knowledge and competences, the existing system is only partly able to meet the increasing demand for renewal of knowledge and competences among adults. The need for a more open education and training system where better and less complicated links between occupations and levels of education are opened up, cannot be met exclusively by the dual system. This is the context of the ongoing and growing debate on non-formal learning within the two countries.

3.2 Non-formal learning in the Mediterranean context: Greece, Italy, Spain and Portugal

There are certain common features linking the Mediterranean countries of Greece, Italy, Spain and Portugal in the area of identification, assessment and recognition of non-formal learning. Compared to northern Europe, these countries (or at least certain regions of these countries), have a much weaker tradition in the area of vocational education and training. Only recently, over the past decade or so, have initiatives been taken to remedy this.

First, the relative weakness of vocational education and training is paralleled by the strength of academic and theoretically based education. Even though academic education in these countries no longer represents any guarantee of employment, high income or high status, the value attributed to formal certificates in general, and academic certificates in particular, is still substantial. In Greece, 70% of all youths prefer academic education to vocational education (Cedefop 1999a), despite a serious mismatch between the output of higher education institutions and the labour market demand. Secondly, the relative weakness of the formal vocational education and training system has established non-formal learning (in particular through work experience), as the domineering form of (vocational) competence reproduction and renewal. This means, and is probably of specific importance in Greece, the southern regions of Italy, and the less developed areas of Spain and Portugal, that a vast reservoir of non-formal, experienced-based competences exists. If this reservoir is going to be 'tapped', and if it is going to be renewed (quantitatively and qualitatively), it is necessary to identify and assess its strengths and weaknesses. The quality of competences based on non-formal learning cannot and should not be taken for granted. Proper systems for identification and assessment could be one way to face this quality problem, and if necessary, point to the supplementary actions needed to improve quality and be entitled to recognition. Perhaps more than is the case in northern Europe, this illustrates the need for identification and assessment of non-formal learning. Although building on relative weak traditions in the field of vocational education and training, and facing a deep-rooted underrating of vocational competences in general, and non-formal vocational competences in particular, a growing willingness towards change can be observed. Throughout the past decade, all four countries have been reforming their vocational education and training systems and specifically Spain and Italy are now entering the decisive stages of these reforms. The consequences in terms of methodologies and systems for the 'identification, assessment and recognition of non-formal learning', are important, and probably of relevance to countries outside the Mediterranean area. The four countries, despite their common challenges, have treated the methodological and institutional aspects in different ways and with varying commitment and intensity.

3.2.1 Greece

Greece may be described as the country within the EU where the role of non-formal learning is most dominant (competing with Portugal in this respect to a certain extent). The General Confederation of Greek Workers estimates that only 30% of the Greek workforce has some type of formal professional qualification[6]. This means that a significant part of vocational competences in Greece has been and is still being reproduced and renewed outside formal institutions. Nevertheless, few initiatives have been taken to identify and assess these competences. In 1994, the Organisation for Education and Vocational Training (OEEK), set up a working group to study the 'accreditation of (non-formal) vocational training of adults'. This work, which represents the most practical initiative in Greece so far, has put forward proposals for the creation of a system for the evaluation of experience, the assessment of gaps in knowledge, and a procedure securing the access to appropriate assessment

[6] Research in SMEs shows that 66% of these enterprises do not have a specialised technician; 13% of SME owners had a technical school degree; 49% completed 3 years of secondary school; 59% would not feel they had any particular need for vocational training.

231

and recognition. While focusing on the aspect of experience the emphasis of the group was put more on the question of equivalence between different parts of the formal system. Some paths are officially recognised, others are not; many individuals face a lack of consistency and are unable to build on prior training in non-recognised parts of the training system. Pilot studies of a sample of (four) professions were important aspects of the OEEK initiative. In these professions, individuals were assessed and tested, illustrating how formal and non-formal learning is mixed and combined. Thus far, these experiences have not been integrated into the Greek system on a permanent basis.

There is however an ongoing political dialogue on these questions and the Ministerial Council is supervising a dialogue between the relevant bodies (Ministry of Labour and Employment, OEEK, EKEPIS, and OAED). A main concern is the creation of a national and comprehensive system of qualification profiles and standards which is presently lacking. The future system is being tested through pilot projects in different sectors, partly using the UK NVQ system as their example. The aim is to develop job profiles (and training packages reflecting these) which will make it possible to specify the content and level to be met by a candidate. Job profiles will be established at different levels, specifying required competences for each specific profession and specialisation both at entry and advanced levels. Profiles will be established with the participation of sectoral bodies and the social partners. For example, in the case of the hotel sector, job descriptions will be developed with the involvement of the respective unions of hotel employees and the national sectoral body (in this case, the national tourism board). This will provide the framework for a national system on which assessment and recognition can be based and where prior formal as well as non-formal learning can be taken into account. The plan is to open this system up to everybody, the emphasis being on the content and level of competences, not on where and how they have been acquired.

Details on how these competences will be 'tested' have not yet (autumn of 1999) been released. It is possible that the assessment and testing approach applied within the IEK (Instituta Epangelmatikis Katartissis)[7] might be considered. This approach is based on a combination of theoretical and practical testing by 'tripartite' committees. Although elements from the IEK system might be used within a future system, it will not be possible to build on the system as such. Operating on a post secondary level, assessment is directly linked to the completion of a course and is thus closed for individuals having followed other learning routes. Some doubt has also been cast on the quality of the assessment procedure: while the inclusion of social partner representatives in the committees can be looked upon as positive, they have not received any particular training, making it difficult to harmonise assessment practices.

The investigation done by Cedefop (1999a) illustrates that broad support exists for the introduction of methodologies and institutional arrangements to assist in this area. There is a certain reluctance among unions of regulated degree-holding professions and among university degrees, and this is partly linked to the question of wages and protected rights challenged by new forms of recognition. It is interesting to note that the scepticism identified in the Austrian context is not so clearly expressed among the Greek players in this field. Contrary to the Austrian situation, the Greek vocational education and training system, initial as well as continuing, is, relatively speaking, much weaker; the need for recognition of partial competences, formal and non-formal is seen as more relevant.

3.2.2 Italy

The Italian education and training system and in particular vocational and continuing training is currently undergoing a remarkable process of reform. Based on agreements between the government and the social partners (Cedefop, 1999b, p.10), the outline of a more comprehensive and national Italian system can be detected. This is particularly clear in the law on 'promotion of employment'

[7] Vocational training institutes.

(Cedefop, 1999b, p.11), in which the basic principles of a (vocational) lifelong learning system is described. The 1996-97 law introduces the principle that competences can be certified irrespective of the way in which they were acquired. Competences acquired through work should be assessed and potentially recognised in the same way as competences acquired through formal training institutions. This is a system where 'the partial achievements of individuals in their own life paths can be assessed and recognised. The new law thus adopts a combination of measures: a modular system of training; a system of training credits; and tailored assessment and certification procedures. The aim is to integrate and interconnect the various systems (initial vocational education and training and continuing vocational training) and achieve 'a personalisation' of learning routes. Though still at an early stage of implementation, certain tensions have already occurred. As it is obvious that procedures and methodologies for the assessment and recognition of competences (in general), will be of crucial importance, the development of these easily turn into a 'battlefield' of different interests. Observers (Cedefop 1999b) point to the predominance of academic content and curricula in the assessment procedures; making it difficult to treat the non-formal learning elements (e.g. from the workplace), in a fair and valid way. Two main instruments/tools have been developed. An 'individual training record book' has been introduced (can be combined with formal attestations/certificates to form a portfolio), as well as 'skills audits', introduced according to different models in the various regions. Observers (Cedefop op.cit.) also indicate that these approaches are seriously hampered for the time being by lack of clear-cut definitions/regulations of the tools in question, and furthermore, the lack of a system of national standards to promote consistent and comparable practices. While being the most important obstacle to reliable and valid assessments, the lack of a national standard is not the only obstacle to be dealt with. Lack of resources limit the feasibility of the approach; a problem that can be linked to the low social esteem associated with this field of education and training. The tripartite basis of the current Italian reforms may prove important to move from political decisions to actual institutionalised practices. The dominance of academic values and the lack of a proper set of standards may cause delays in this implementation process.

In a recent study (ISFOL 1998), Italian managers have been asked what they look upon as the most crucial elements for managing competences and developing continuing training. This study, it turns out, is closely linked to the question of non-formal learning and how to develop methodologies and institutions in this area. The investigation focuses to a large degree on how to measure competences in such a way that they can be managed and utilised in the best possible way. Some of the points made were:

- who should assess the competences acquired by individual workers and how. This already happens in many enterprises but based on internal and not easily transferable standards. Some employers fear that more visible competences would lead to the loss of core competences in the enterprise. Hence, a common framework balancing the interests of the individuals and the enterprises is requested;

- firm public control over systems for the assessment of competences is seen as necessary. The aim should be to uphold standards and to secure proper representation of the social partners. If the rules and procedures are clear, a strategy towards the recognition of non-formal learning is seen as feasible and useful;

- systems for the recognition of non-formal learning should be linked up to general standards open to comparisons. Standards should not be too specific due to the need to take into account the context of the learning in question and the wide variety of learning paths and learning forms involved;

- there is a great deal of goodwill and readiness to try out procedures and instruments to promote visibility and transparency of competences. As indicated earlier, this must be done within a common publicly-

controlled framework. This interest is linked to the question of flexibility of the education and training system as such, emphasising that the opening up for transfer of competences between education and work and between different levels of education is a crucial objective which has to be met;

- the idea of a portfolio in the sense of recognition of 'experience credits' is looked upon as a potentially promising way to go.

This study clearly indicates that there is a shared conviction among Italian managers that work-based learning is important and that these competences should be made more visible and attributed equivalent value to qualifications and competences acquired in formal settings.

3.2.3 Spain

The Italian reform movement in the area of vocational and continuing education and training is paralleled, albeit in an even more comprehensive way, by Spain. Since 1990, three important legal/political initiatives have been taken. A law on 'the general regulation of the education system' was introduced by the Ministry of Education in 1990, and two interlinked 'national vocational training programmes' (I and II), were introduced by the Ministry of Labour in 1993 and 1997. The purpose of all these initiatives, which are linked, is to integrate the different subsystems of training and different forms of acquisition of competences (i.e. combine 'regulated, occupational, continuing training and work experience' with each other). This bridging effort is clearly based on an output-oriented, competence-based view of vocational training education. It can also be said to aim at a lifelong learning system. Until now, the role of non-formal learning has been weak in the Spanish formal system. Confined to the level of enterprises, the transfer of non-formally based competences has been difficult. The restructuring of the education and training system, however, implies that this may change. Two initiatives are of particular interest in this context. First, the integrated service plans for employment (SIPE), establish procedures for the competence assessment of the unemployed. Using a combination of 'occupational interviews' (to identify the vocational and competence profile of the individual) and 'occupational qualification tests', this procedure aims to improve the basis of guidance and improve the self-understanding of the individual's own strengths and limitations. The procedure does not, however, lead to any formal recognition. Second, certificates of occupational proficiency represent an effort to certify non-formal learning. Set up in 1995 (see Cedefop, 2000), the system currently covers 185 vocational titles in 22 sectors/areas. A certificate of occupational proficiency can be obtained through two main pathways. The 'training pathway' is the dominant one, whereas the 'work experience pathway' is of minor importance. The Ministry of Labour, responsible for the scheme, has identified the following aims:

- identify the characteristics of vocational competence and thus objectify accreditation;
- integrate vocational training in a system which will guarantee the acquisition of vocational competences;
- increase the minimum training content of workers;
- give certification national validity;
- accredit, through work experience, the qualifications of workers who do not have a formal title.

The practical testing will be conducted by an assessment committee of seven provincial or sectoral based external observers. Cedefop (2000) suggests that the developmental work within this field is biased through the overemphasising of the formal training path. Although the legal base ascribes the same value to formal and non-formal routes, there is an impression that those attempting to be certified on the basis of experience face a growing number of obstacles. Currently, the establishment of methodologies and arrangements to assess and recognise non-formal learning in Spain depends on the parallel development

of 'national systems for qualifications', a reference point which could provide a better basis for integration and interconnection of the various forms of competence acquisition. This system or standard was foreseen in the first 'national vocational training programme' of 1993, and has been under development since then. The 'National Institute of Qualifications' established in 1999, will support this system and is seen as being of vital importance in future.

In addition to the elements mentioned, collective bargaining is increasingly used as an instrument for the regulation of the occupational classification system. Collective bargaining at sectoral level has led to some progress in the area of occupational classification. Agreement on general classifications, thus doing away with purely company-specific reference frameworks, has made it possible to start work on procedures where workers can be assessed and paid according to these categories. In the chemical and construction sectors some progress has been made. Though still not very widely used, a professional skills card has been introduced in the construction sector. The trade union organisations responsible for issuing these cards are already complaining about the practical problems faced.

3.2.4 Portugal

Like Greece, Italy and Spain, the economic role of non-formal learning is important in key sectors of the Portuguese economy. In a recently published article, Carneiro (1998) compares two Portuguese industrial sectors: the shoe industry and electronic-component industry. The latter is new in the Portuguese context and consists of employees with a relatively high level of formal education and training. Shoe production, on the other hand, is based on a very low level of formal education and training and is described as a sector reproducing and renewing itself through 'on-the-job learning', or non-formal learning in our context. Carneiro uses the success story of the Portuguese shoe industry, in which the ability to renew and grow has been very strong, to emphasise the huge potential of non-formal learning. The conclusion is that this form of learning and the resulting competences is a resource that has to be exploited in a more conscious and systematic way in future.

An overall strategy for the systematic utilisation of these competences is still under development. Within the domain of the Ministry of Labour and Welfare and the Ministry of Education, arrangements have been introduced during recent years to make it possible for individuals lacking formal qualifications to have their actual competences assessed.

Based on agreements between the social partners and the government (for details, see Cedefop 1999j), the Ministry of Labour and Social Welfare has put into place a vocational qualification system which in principle is open to competences acquired outside formal education and training institutions. These general agreements, which can be looked upon as efforts to link education and training policies to broader economic and social policy, resulted in three laws on vocational education (401/91, 405/91 and 95/92). The foundation of the vocational training system (SNCP) was laid through these laws, the aim being to establish 'the conditions for effective attainment of vocational certification'. Commissions at national (the Standing Committee on Certification, CPC) and sectoral levels (CTE) coordinate the actual implementation of the system. The social partners are represented in both these committees. The Institute of Employment and Vocational training provides technical and professional support for this process. These bodies are responsible for the development and issue of vocational profiles defining the scope, content and level of a specific qualification. A certificate (CAP) can be achieved either through traditional school-based vocational training, through recognition of qualifications acquired in other systems (equivalence) or through assessment and recognition of vocational experience.

The last possibility and of particular interest is based on a regulatory decree (68/94) and puts forward the general conditions for issuing a certificate. A procedure containing three main steps is indicated. This procedure is still being tested with the main elements being:

- 'application procedure and the prior identification of skills': at this stage, the vocational file of the candidate is studied. The aim is to establish an overview of the work history of the candidate, including details of formal and non-formal training and learning. Immediate training needs should also be identified. The candidate should provide relevant proof of training and work experience according to the demands set by the certification system. Following this 'paper-based' stage, a stage of assisted self-assessment is foreseen. Specialists supplied by the social partners (we do not have documentation on how this is going to be solved in practical terms) will explain the activities and the competences required by the vocational profile. It is expected that this will identify the match or the mismatch between the competences held by the candidate and the requirements set forth by the profiles. Guidance will be a crucial element of this stage;

- 'assessment': it is stated that assessments can take different forms, the main elements being a formal analysis of the CV drawn up in stage one, the second being a technical interview and the third consisting of tests drawn up in accordance with the certification manual. The technical team (three members) who check the files carry out the interview and supervise the practical tests and may include members of the social partners ('where required');

- 'certification': this is the formal act of issuing a vocational aptitude certificate proving that the holder has the competences needed to carry out the relevant job.

Following the standards set by the job profiles, a vocational certification manual instructs on how to proceed in each specific job area. In this way, an opening up of the system occurs where the importance of vocational learning outside the formal education and training system in work or elsewhere is acknowledged. Practical experience is limited however. In a few cases (trainers of vocational training, hairdressing and beauty services, taxi drivers, occupational health safety services and engineers) processes of assessment and recognition of experientially-based competences have begun or will begin in the near future (2000). For example, engineers can from 1999 onwards have their vocational experience assessed through the procedure referred to above.

Within the area of responsibility of the Ministry of Education two main forms of assessment/recognition of non-formal learning can be identified. First, assessment and recognition of informal 'school type of learning' can be granted for purely vocational purposes. This means part-recognition can be granted to enable candidates to improve their job situation either through internal promotion or change of career. This recognition is not sufficient, however, to grant access to further education or studies. Second, assessment and recognition can take place to pave the way for recurrent education, at primary or secondary level. At both levels, candidates are interviewed and tested. If it is concluded that an applicant already has knowledge of some units of one or more subjects, equivalence will be granted and he or she will be placed at an appropriate level. Following a successful assessment/recognition procedure, candidates follow individual paths, at their own pace, and ask to be assessed when they feel ready for it. A substantial number of individuals have taken advantage of this possibility. In 1997-98, more than 10 000 were assessed for fourth grade primary school, 8 500 for sixth grade and 41 000 for ninth grade. Half of this group of almost 60 000 were more than 20 years of age. At secondary level, 35 000 were assessed during 1997-98. The vocational experiences of candidates are not covered by this arrangement. School subjects define the focus of the assessment. Competences not covered by the school curricula will not be treated in any explicit way. The assessments should not consider where knowledge has been acquired, but if it has been acquired.

In addition to the assessment and recognition efforts covered by the systems mentioned above (under the responsibility of the Ministry of Labour and Welfare and the Ministry of Education), a number of initiatives have

been taken outside these structured systems. The plan is gradually to integrate these autonomous initiatives into the overall framework of the national vocational certification system. CTSs (sectoral commissions) have recently been set up in a number of sectors to prepare integration into the certification system. Examples of groups covered by these initiatives are transport workers, journalists, civil aviation employees, low-voltage electricity workers, merchant seamen and hotel/restaurant and tourism workers. Common to all these groups is that they are covered by sector-internal procedures for recognition of work experience. In the case of transport workers, for example, the General Directory on Road Transportation has issued a 'professional card' to workers with more than five years in a relevant position, and having passed a written test. In journalism, one to two years of experience is sufficient (length according to prior education), to give the individual a right to hold a 'professional card' as a journalist.

The Portuguese approach to identification, assessment and recognition of non-formal learning can be characterised as unfinished. A number of elements have been put into place which will eventually make it easier for individuals to make use of competences acquired outside formal education and training institutions. The national vocational certification system is clearly the most important in this setting, potentially paving the way for alternative pathways. The social partners will play a crucial role in this setting. Formally supposed to contribute in all stages of the process, from the definition of the job profiles to the actual assessment, their actual contribution.

3.2.5 A Mediterranean model?

As shown in the discussion of the southern EU Member States, the general attitude to the introduction of methodologies and systems for non-formal learning is positive. Both in the public and private realms, the usefulness of such practices is clearly expressed. The huge reservoir of non-formal learning which creates the basis for important parts of the economies in these countries needs to be made visible. It is not only a question of making it easier to utilise this reservoir, but also a question of how to improve the quality of these competences. So long as an important part of the competence base in a society is invisible, it is practically impossible to indicate where improvements should be made. In this way methodologies for the assessment and recognition of non-formal learning can be viewed as tools in a quality campaign, encompassing not only single workers and enterprises but whole sections of the economy.

It must be noted, however, that the step from intention to implementation is a long one. These countries are more or less operating at the planning stage. Legal and political moves have been made through educational reforms of various scope but the actual introduction of assessment and recognition practices has not progressed very far. The coming years will show whether the positive intentions almost unanimously expressed in the four countries will be translated into practices which actually affect and serve individuals and enterprises.

A striking aspect common to the four Mediterranean countries is the important role played by projects and programmes financed at European level. The examples of Greece, Italy, Spain and Portugal illustrate the importance of EU initiatives and support. A high number of individuals and institutions from all countries have participated in projects and programmes focusing on questions of assessment and recognition of non-formal learning, contributing somewhat to attitudes identified within this area. To take Italy as an example, a substantial amount of experience has been gained through such projects and programmes especially since 1996-97. This 'project approach' can be described as 'bottom-up' in the sense that no centrally established direction or objective has been established. The projects in question seem to have been based on the interests and needs of those individuals and institutions involved and not on general national policies in the area. While supporting innovative practices and widening the scope of experimentation, the problem may be one of implementation and dissemination. Avoiding a detailed examination

237

of all projects concerned[8], the majority of them focused on three main groups: women, long-term unemployed and employed at risk. In one case, young school drop-outs were covered. An impressive variety of identification and assessment methodologies and instruments were suggested/developed in these projects, essentially based on three systems:

a) more or less structured individual discussions in which the person's own statements prevail;

b) self-assessment of personal characteristics using ad hoc instruments;

c) self-assessment through group exercises.

Since no system framework and no formal reference points exist, the assessment system developed for these groups are left 'on their own', with the resulting assessments receiving varying degrees of acceptance and legitimacy. The main value of these projects, it seems, is to serve as a reservoir of experiences, potentially supporting the more system-integrated assessment tools introduced on a permanent basis.

3.3 Non-formal learning in the Nordic context: Finland, Norway, Sweden and Denmark[9]

In two of the four countries discussed in this section, Finland and Norway, the issue of non-formal learning has moved into the forefront of public education and training debates, as well as become the subject of important and far-reaching institutional experimentation and reform. In the two other countries, Sweden and Denmark, interest has so far been limited. This seems to be changing, notably in Sweden, where a number of initiatives, both from the government and social partners, have been taken during 1999. The four countries in question share important common traditions in the area of education and training. Mutual learning has been an important aspect of the development of national systems and a shared Nordic labour market has made cross-border transfer of competences a normal and accepted matter of fact. Two things in particular should be mentioned:

- education and training is highly institutionalised and formalised, covering major parts of each age group;
- education, and especially vocational education and training, is very much a tripartite matter of concern. The steering of training is based on the participation and influence of State employers as well as employees.

During the past three to four decades, however, these countries have chosen different approaches to education and training. This applies in particular to vocational education and training at upper secondary level, where today we can distinguish between four distinct models. The various institutional and organisational choices in the four countries may be linked to a different emphasis on the importance of work-based learning. Recent Finnish and Norwegian reforms very much underline the importance of work-based learning by introducing institutional changes supporting this form of learning. This emphasis has not been so clearly expressed in the Swedish context. The Danish perspective can largely be compared to that of Germany and Austria. The focus has predominantly been on initial education and training within a dual model, generally considered as sufficient to cover the aspect of learning through experience. There might be a link between these differences and current activity in the area of non-formal learning.

3.3.1 Norway

In the Norwegian system for vocational education and training, the apprenticeship element has recently been strengthened. Work experience is now an an obligatory and integrated part of all courses in the vocational part of upper secondary education (since

[8] In 1997, 24 of the Italian Leonardo and 27 of the Italian Adapt projects covered, at least in theory, subjects of certification recognition (Cedefop 1999b).

[9] Iceland, the fifth Nordic country has, for reasons of capacity, not been included in the Cedefop study.

1994). Vocational training in Norway is based on an initial (general) introduction to subjects in the form of two years of school-based education and training. After this, two years in an enterprise or institution follows, aimed at specialisation and development of competences through work experience (Cedefop 1999d). Currently, a reform of the system of continuing education and training is being introduced. Within this system, methodologies and institutions for the assessment and recognition of non-formal learning (*realkompetanse*) will be integrated. The work on this reform started in 1996 and a committee forwarded their suggestions in 1997, emphasising the importance of establishing broad-ranging methodologies and initiatives for the assessment and recognition of non-formal learning in general and not only in relation to the apprenticeship scheme. This was followed by the parliament proposing and deciding (Innst. S. nr. 78, 1998/99) on a general reform of the CVT system. The Ministry of Education and Research has been made responsible for developing a national system for identification, assessment and recognition of non-formal learning (or *realkompetanse*), in the coming two-year period. A broad range of projects has been initiated at national and regional levels in an effort to outline the requirements for a full-scale system of assessment and recognition of non-formal learning. This includes both the methodological and the institutional sides of the issue. Social partners are heavily involved in the process and *realkompetanse* has in many ways become a focal point in the Norwegian debate on education and training. In the proposal to parliament which formed the basis for formal decisions and ongoing research and experimentation it was stated that two types of 'documentation' (identification, assessment and recognition) should be developed. One, documentation should focus on the needs of work in specific occupations or branches, and two, it should focus on the link to the formal education and training systems and give individuals the possibility to apply on the basis of non-formally acquired competences. This explicit focus on the different needs to be met is interesting and not found in many other countries. It might be looked upon as a reflection of the strong social partner involvement in the debate on non-formal learning in Norway. Both employers and employees have emphasised the need to develop methodologies not only following the logic of the education and training system, but also meeting the needs of employees and enterprises. Consequently, the system is supposed to cover competences acquired through different learning paths, including prior formal learning, learning through work experience, experience through the care of children and/or elders, cultural and social activities, etc. Another interesting point made in the proposal to parliament is the emphasis on legal rights. Individuals will be given the right to make formal complaints on assessment decisions (to a regional body). The formal objectives are listed as follows:

- the system should give adults the right to document their competences relative to the curricula of formal education and training (with the aim of certification);
- the system should open up for access to formal education on the basis of non-formally acquired competences (the aim of continued training);
- the system should provide the basis for exemption for parts of formal education and training courses (the aim of avoiding double work);
- the system should provide access to certain professions and occupations stating that non-formal learning is not inferior to formal learning so long as the same quality and competence level is achieved.

It is stated that the system should be autonomous and not only an 'annex' to the traditional testing procedures within formal education and training. More than in most other countries, recent reforms can be linked to a certain tradition. The right to have non-formal competences acquired outside the formal education and training system formally certified, was stated as a general right in the Norwegian Adult Education Act of 1976. However, little progress has been made when it comes to the development of procedures and institutional arrangements. The law of 1976 has

served as a symbol of intention in this direction, but not as a tool to realise this objective. The single most important form of identification, assessment and recognition of non-formal learning in Norway, is that in which a candidate may take a final examination for apprentices (crafts examination) on the basis of his/her practical work experience. This arrangement was introduced as early as 1952 in the Act concerning vocational training. In Section 20 of this Act, it is stipulated that 'the craft examination may be taken without any contract of apprenticeship by those who have not less than 25% longer general practice in the craft, than the period of apprenticeship'. During the 1970s and 1980s the utilisation of the scheme was moderate. During the 1990s this has changed and almost exploded during the period 1997-98. Approximately 14 000 candidates attended in each of those years, double for a 'normal year'. Since an average age group comprises approximately 60 000, these numbers are extremely high. Branches like construction, transport, electro-mechanical industry and health-social care dominate. The popularity of the scheme may be seen as a reflection of the relatively low level of formal training in these areas. It also reflects the general pressure towards formalising qualifications, the most important of these being wages and security of employment.

3.3.2 Denmark

The Danish vocational education and training system can be described as dual in its character being very much based on an apprenticeship approach to training. This initial education and training is supplemented by a system of continuing vocational education and training and highly integrated into labour market policies. Currently, a broad reform of adult education is being discussed (*Undervisningsministeriet* 1997 and Cedefop 1999f). This reform links up with the general trends described in the Norwegian and Finnish cases, emphasising that the role of non-formal learning has to be revised to establish an education and training system linking levels and various learning paths.

Although the debate on non-formal learning has been limited in Denmark we find elements in the existing system attempting to integrate this kind of learning. The first example is the apprenticeship programme for adults (*Voksenerhvervsuddannelsen*, VEUD). This scheme makes it possible for adults to be exempted from parts of the formal initial training on the basis of prior educational or occupational experience. The relevant trade committee decides on questions of exemption. The VEUD programme operates according to an individualised approach which identifies the experience of each candidate and sets up a training plan accordingly. Assessment of prior learning is an integrated part of the VEUD scheme. For each adult apprentice an educational plan must be drawn up which gives proper credit for competences already acquired. The sectoral trade committees are responsible thereby involving the social partners.

Since 1992, approximately 6 000 adults have started training under the VEUD programme. Also, within the ordinary initial vocational education and training schemes exemption can be granted on the basis of prior work experience. If the application for exemption concerns a school subject, the school in question handles the request. If the reduction of training time is more than four weeks, the trade committee is consulted. The same is the case if the exemption concerns practical parts of the programme. Rules for the recognition of prior learning are formulated in the regulations of each single vocational subject. In the health and care programmes, which are regulated through separate legislation, the county or municipality decides on matters of exemption. Having received a recommendation from the school, practical work experience can result in part exemption. The public authority is required to take all possible competences into consideration when doing this.

It should be mentioned that the Labour Market Training Act of 1995 (see Cedefop 1999f) provides a clearer focus on the role of learning through experience at work. Following this Act, courses to assist individuals in identifying their competences were introduced aimed at subsequent training. These courses have a duration of one to three weeks and can

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be characterised as a combination of assessment and vocational guidance.

An additional Danish approach, not directly linked to the schemes discussed above, should be mentioned. This is the SUM system (strategic development of employees) set up by the social partners (the Confederation of Danish Industries and the Central Organisation of Employees within Industry) in the industrial sector in the early 1990s. The aim of the system is to identify ('measure') competences within enterprises and is linked to the central agreement between the social partners that each employee shall attend CVT for at least two weeks every year. When this agreement was made, in the late 1980s, the social partners were not able to agree on the content and profile of this training component: who should decide on which courses to attend? To avoid a conflict, a toolbox (the SUM system) was created whereby enterprises were equipped to analyse and describe their own competences and competence needs. The idea was that potential conflict would be solved if discussions took place at 'grassroots level'. SUM builds on three fundamental principles:

a) the companies themselves are the users of the methodology, no external parties (experts) are involved;

b) the dialogue between employers and employees is the basic principle followed when using this methodology;

c) a 'modular' approach is used so that enterprises may choose from a selection of methodological elements according to the exact needs of the individual company.

The SUM approach covers identification and assessment of competneces. It does not, however, cover recognition in the sense that a link to formal qualification is established. The experiences from SUM have illustrated some of the problems likely to be encountered by such an approach. Frequently, the description of competences does not follow the suggested vocabulary making transparency and transfer difficult. It is interesting to note that neither employees nor employers have expressed clear wishes (according to the SUM secretariat) to develop this system further so that it may link up to the formal certification systems. As stated, employees expect to stay in the enterprise and do not see the relevance of tools supporting transfer; employers are afraid of losing their most competent workers and are thus reluctant to establish transparent systems, making transfer too easy.

3.3.3 Finland

The Finnish vocational education and training system is characterised as competence based (output-based) and operates according to a modularised structure. A core element of this system is that 'skills and knowledge can be demonstrated and recognised regardless of how they were acquired'. Made operational through a new law on vocational education in 1994, the competence-based qualifications system is divided into three qualification categories: an initial vocational qualification, a further vocational qualification and lastly, a specialist vocational education (Cedefop 1999e).

Competence-based qualifications are officially recognised and protected by law. Titles are regulated by the Ministry of Education in close concert with the Ministry of Labour and the social partners. Apart from the ministries and national social partner organisations, the practical work is organised in the following way. Expert groups, administered by the National Board of Education, conduct the actual preparations for 'the national guidelines', that is, the requirements/achievements of the qualification in question. Within the expert group, at least the social partners, teachers and preferably self-employed professionals, should be represented. Examination boards (250 in all) are responsible for the organisation and supervision of the tests. They approve the accomplishments of the qualifications and sign certificates. The examination board also has a supervisory status, making contracts for the organisation of tests/assessments with educational institutions (or other institutions) that have the necessary expertise. Contracts for the organisation of skill tests involve assessors of the test performance, maintenance and development of the

vocational competence of the assessors and a number of other elements. Despite the existence of national guidelines for each qualification which may be understood as the important point of reference, the actual carrying out of the assessment varies pointing to the problem of reliability and possibly validity. To 'combat' this problem, a national project (ALVAR) was initiated to ensure that the skills tests in certain occupational areas would be nationally comparable and that the requirement levels correspond to appropriate needs in working life. ALVAR gathers and trains experts for the preparation of the test task. Training for organisations conducting tests is also organised. Finally, ALVAR develops and maintains a 'test bank' to support the general search for reliable, criterion-referenced testing and assessment. The ALVAR project, financially supported by the European Social Fund, is an interesting example of quality assurance within the area of testing and assessment. The underlying perspective is that it is impossible to specify beforehand in detail, how an assessment is going to be conducted. The most sensible way of assuring reliability and hopefully validity, is to support training of assessors and networking of assessors. Although this process is still too recent to evaluate in concept, it is promising. Finally, following the work of all these institutions, groups and individuals, the actual skills test/assessment may take place if different options are provided:

- the assessment is made on the basis of a portfolio (samples of work products, project works, partial evidence, including employers' descriptions of work tasks, and competence);
- the assessment is made at his/her workplace, supplemented by written/oral interviews;
- the assessment is held at the educational institution which organises the test.

The Finnish competence-based qualification system is still in its initial phase. The number of candidates passing through seems to be increasing. In 1998, 10 000 are estimated to have passed through the system.

3.3.4 Sweden

The Swedish model of vocational education and training can be described as 'school based'. Though gradually becoming more open to apprenticeships, the vast majority of candidates receive their vocational training through instruction in specialised schools. Officially, one aim is to provide a certain practical-oriented training in enterprises (approximately 20% of the time), but this has proven difficult to realise (Cedefop 1999g). As indicated in the introduction to this section, Swedish initiatives in the past have been few, and more related to specific groups (immigrants, disabled, unemployed), than to the general public. The project 'immigrants as a resource', initiated in 1988, developed a testing programme for immigrants with vocational qualifications. This scheme (PTVI), was divided into practical and theoretical parts, taking between two to 12 weeks to complete. After testing, the candidate received a written description of equivalent Swedish education and training requirements. Until 1992, the National Labour Market Board was responsible for organising vocational tests for all the unemployed who wished to be tested. Since then this service has been decentralised to local employment offices resulting in a sharp decline in testing. Nowadays local offices are forced to choose when and to what extent testing should be carried out. The reasons for the decline are complex but the costs and the complexity of the testing itself are mentioned as possible explanations.

Recognising the problems caused by this situation, the Swedish Ministry of Education initiated (1998) an investigation on how to assess and recognise 'foreign' qualifications. Following this investigation, a number of recommendations were forwarded (SOU 1998:165), pointing to the need for clarifying responsibilities at national and regional levels. It was suggested that upper secondary school curricula (*Gymnasieskolans styrdokument för yrkesutbildning*) should be used as benchmarks, defining the appropriate requirements and levels to be met by candidates. The approach is output-based in the sense that no prior, formal schooling or certification is required. Not limited to the issue

of 'foreign' qualifications, the report suggests in its final chapter that a system for assessment and recognition of prior and non-formal learning should be open to all adults and not just immigrants. The ministry has decided to follow up these suggestions by initiating experimental projects in different branches and regions. The discussions following the investigation of the ministry might prove important. One of the major trade union confederations (*Tjänstmännens Centralorganisation*/TCO) responded by issuing their own report (TCO: 1999) wherein they stated that Sweden needs a system for assessment and recognition of non-formal learning. The ministerial approach is, however, judged as unsatisfactory and far too narrow. TCO suggests initiating a tripartite effort towards a Swedish system for assessment and recognition of non-formal learning, using experiences and best practices from neighbouring Nordic countries as well as from the EU in general.

3.3.5 A Nordic model?

It is not possible to speak of any 'Nordic model' at least in any strict sense. Finland, Norway, Denmark and Sweden have chosen different approaches and are working according to somewhat different schedules. These differences do not change the fact that all four countries are taking practical steps, through legislation and institutional initiatives, towards strengthening the link between formal education and training and the learning taking place outside schools. Despite the fact that some elements of this strategy have existed for some time (notably the Section 20 scheme of Norway), the most important initiatives have taken place in recent years, mostly since 1994-95. The mutual learning between the countries is strong and has become even stronger over the past two to three years. The influence of Finnish and Norwegian approaches on recent Swedish documents illustrates this effect.

The rapid changes in the Nordic context contrasts the reluctance encountered in the Austrian and (partly) German contexts. Like those, the Nordic countries have developed very strong and highly structured systems for formal vocational education and training and in Germany and Austria the apprenticeship path is an important and integrated part of these systems (most clearly expressed in Denmark and Norway, less so in Finland and especially Sweden). These similarities have not led to the same conclusions. The willingness to link non-formal learning processes into the formal system is much stronger in the Nordic setting than in the German or Austrian contexts.

The Danish report on 'Identification, assessment and recognition of non-formal learning' (Cedefop 1999f) presents some interesting reflections on the specific Nordic approach to education and training and in particular to adult education. The strong influence of the educational philosophy of Grundtvig on adult education especially in the Scandinavian countries Denmark, Norway and Sweden during the past 150 years is probably relevant for the understanding of current developments. The philosophy of Grundtvig focusing on broad and general 'popular enlightenment' through a system of 'folk high schools' has created a positive attitude towards adult education and learning. The 'folk high schools' have deliberately avoided formal testing and certification and instead focused on the learning process as a value in itself, something which is important in all layers of the population and at all stages of life. To use the language of the EU White Paper, this movement has from its early beginnings operated by looking to broaden the individual and societal competence base. This 'popular enlightenment' strategy has gradually been built into the educational systems of the Nordic countries and is currently to a great extent financed by public budgets. The notion that non-certified learning is as important as the certified variety has thus been supported and developed over a long period of time. Being one of many factors, this may offer part explanation of why the Nordic countries move faster in this area than Germany and Austria.

While Finland and Norway are currently paving the way for the institutional integration of non-formal learning as part of a general lifelong learning strategy, plans presented in Sweden and Denmark may indicate that these

243

two countries are moving in the same direction and that the issue of non-formal learning will become more focused in the coming years. In all four countries, however, the role of the social partners is very strong, reflecting the shared tradition of tripartite steering principles in this particular policy field.

3.4 The influence of the NVQs: UK, Ireland and the Netherlands

The National Vocational Qualifications (NVQs) introduced in the UK in the late 1980s[10] have become a central point around which an interesting process of international learning evolves. Presenting itself as modularised and flexible, meeting the needs of the public and private realms as well as individuals and enterprises, many countries have looked towards the UK to see if this system, or rather elements of it, could be implemented into their own context. Even more experimental projects (not least within the Leonardo da Vinci programme) have used the NVQ system as a point of departure. Other countries seem to use the NVQ system as an indicator of what they want to avoid, pointing to the problems involved in too strong a modularisation. From the beginning the system had to face the challenges of accrediting a variety of learning paths, resulting in approaches like the APL and APEL (Accreditation of Prior Learning and Accreditation of Prior Experiential Learning). These developments have influenced the European development of methodologies for the identification, assessment and recognition of non-formal learning in a profound way. Covering only the UK, the Netherlands and Ireland in our 'NVQ cluster' it should be noted that the NVQ experiences have been considered in a number of other countries.

3.4.1 United Kingdom

The UK system of National Vocational Qualifications (NVQs) has, since its inception, served as the most outspoken and clear example of a competence-based, performance-related, output-oriented system of vocational education and training. Although controversial in the UK, the NVQ system has served as an example of an alternative to the traditional, school-based model of education and training. The system is in principle open to any learning path and learning form with particular emphasis on experience-based learning at work. As stated in the presentations of the system (and repeated by those countries embracing similar thinking), it does not matter how or where you have learned, what matters is what you have learned. Such a system, if it follows its own principles, is of course open to the learning taking place outside formal education and training institutions, what we in this context have termed non-formal learning. It is no coincidence that questions of assessment and recognition have become crucial in the debate on the current status of the NVQ system and its future prospects. The UK experiences in the area of assessment of non-formal learning, which should be looked upon as an integral part of the general assessment challenge, are also highly important for the development of assessment practices and approaches in other European countries. It is, however, important to adopt a more critical approach to these experiences than what has been the case thus far. In some instances there has been a tendency to copy the NVQ system and not to reflect on its strengths and weaknesses. In the following sections, we will try to discuss some of the underlying assumptions of the NVQ system and how these have been met in reality. The four basic assumptions are (Eraut et.al.1996):

a) a near perfect match between national standards and competences at work;

b) because training and assessment both occur at the workplace, high validity of assessments is achieved;

c) competences gained are transferable;

d) detailed specifications together with trained assessors will ensure both validity and reliability.

Until now, there has been an insistent rhetoric that NVQs reflect the needs of employers and although far from perfect represent the best effort so far to merge national and com-

[10] In Scotland: SNVQs.

pany-specific demands. It is true that employers are represented in (the former) leading bodies and standards councils, but several weaknesses of both a practical and fundamental character have appeared. First, there are limits to what a relatively small group of employer representatives can contribute often on the basis of scarce resources and limited time. Second, the more powerful and more technically knowledgeable organisations usually represent large companies with good training records and wield the greatest influence. Smaller, less influential organisations obtain less relevant results. Third, disagreements in committees, irrespective of who is represented, are more easily resolved by inclusion than exclusion, inflating the scope of the qualifications. Generally speaking, there is a conflict of interest between national standards, first, the commitment to describing competences valid on a universal basis and, second, the commitment to create precise standards to minimise the scope for different interpretations when making assessments.

Historically, there has been a shift from narrow task analysis to broader functions analysis. This principle is oriented towards the need to create national standards describing transferable competences. Observers have noted that the introduction of functions was paralleled by detailed descriptions of every element in each function, prescribing performance criteria and the range of conditions for successful performance. The length and complexity of NVQs, currently a much criticised factor, stems from this 'dynamic'. As Wolf (1995) says, we seem to have entered a 'never ending spiral of specifications'. Researchers at the University of Sussex (Eraut cited above) have concluded on the challenges facing NVQ-based assessments: pursuing perfect reliability leads to meaningless assessment. Pursuing perfect validity leads towards assessments which cover everything relevant, but take too much time, and leave too little time left for learning. Perfect validity means endless assessment, perfect reliability means meaningless assessment.

We have intentionally undercommunicated some of the more specific methodological tools developed in the wake of the establishment of the NVQ system. Approaches like accreditation of prior learning (APL), and accreditation of prior experiential learning (APEL), have become less visible as the NVQ system has settled. This is an understandable and fully reasonable development as all assessment approaches in the NVQ system in principle have to face the challenge of experientially-based learning, i.e., learning outside the formal school context. The experiences from APL and APEL are thus being integrated into the NVQ system. In a way, this is an example of the maturing of the system. The UK system, being one of the first to try to construct a performance-based system, linking various formal and non-formal learning paths, illustrates the dilemmas of assessing and recognising non-formal learning better than most other systems because there has been time to observe and study systematically the problems and possibilities. A major issue is the close link between standard and assessment. The formulation of standards: who takes part, how much time and resources do they have at their disposal, how do they approach the task of describing these functions, performances or outputs?

3.4.2 Ireland

The Irish accreditation of prior learning (APL) approach is clearly based on the same performance-based approach to assessment as we find in the UK. This is hardly surprising, since mutual learning between these countries has been strong and remains so. The Irish experience, however, is of a more limited character than the British. FÁS, the Irish training and employment authority, has been the main promoter and initiator in this field to date. The accreditation of prior learning is integrated into the general certification framework. The following principles are emphasised: first, FÁS certifies skills and skills levels, not courses. The performance-based output-orientated perspective found in the NVQs and elsewhere is thus central to the Irish model. Second, a modular training programme is matched by modular assessment. Third, emphasis is on practical and personal skills as well as related knowledge. Fourth, industrial standards have been established through cooperation and participation with relevant interest groups. Lastly, assessment

2H5

should be criterion referenced, and each assessment should be linked to key objectives identifying the skills and knowledge to be demonstrated. However, actual experience with APL in Ireland has been limited. Since 1992, projects in retail, construction and electricity supply, have been carried out, utilising somewhat different methodological approaches. The future development of assessment and recognition of non-formal learning in Ireland is not clear. While being important, FAS represents only one part of the Irish certification landscape and it has yet to be seen whether the establishment of Teastas, a national body intended to nationalise certification of vocational education and training programmes, will make a difference. It should also be noted that the 'project approach' of FAS, promoting APL in time-limited projects towards limited areas/branches, does not guarantee the permanent introduction of these methodologies. It is fair to say, however, that a certain amount of experience has been gained from these APL projects, supplemented by participation in a variety of European programmes and projects.

3.4.3 The Netherlands

The Dutch approach to assessment and recognition of non-formal learning can in some respects be compared to the Irish. The influence of the UK NVQ system is evident, but the general performance-based modular system has been translated into a specific Dutch variant differing from the British. The actual development of methodologies, especially those promoted by the Ministry of Education through CINOP (Cedefop 1999i), can also be characterised as limited in approach, thus far being tested in a limited number of sectors and occupational areas. As in the Irish case, important methodological experiences have been gained of interest also to other European countries. The CINOP assessment model is very well documented (Klarus 1998, Cedefop 1999h)). It is centred on a practical task to be solved and consists of three distinct stages: planning, execution and evaluation. Within these stages, different assessment methodologies are used and the aspects focused on differ from each other. In the first stage, planning, the aim is to assess the candidate's methodological competences and his or her ability to plan the task ahead. Criterion-referenced interviews are used together with observation of work preparation. The second stage focuses on the actual execution of the task, trying to assess execution as well as reflective skills. Assessment is based on a combination of observation (of process and result) and a criterion-oriented interview. In the third stage, evaluating/adjusting, the aim is to assess the reflective skills of the candidate. The candidate is asked to reflect on the task performed, to identify alternative ways of doing it, and to indicate how the chosen approach could be transferred to other working situations. The CINOP approach is linked to and based on the already existing qualification structure (standard) for secondary vocational education. The approach is clearly integrated into the framework of the Educational and Vocational Training Act (WEB) and can thus be looked upon as an initiative to link non-formal learning to the formal system. The Dutch qualification standard is based on job and task analysis and it can also be characterised as industry driven (social partners take part at all levels in the definition of the standards). The content of the qualification is divided into three types; vocational competences, competences for further development and social and cultural competences. All relevant parties, government, social partners and representatives of the educational system, have agreed that different learning pathways should be accepted and supported. As pointed out by several observers (Cedefop 1999i), the Dutch approach to non-formal learning is more than the CINOP model. Experiments are currently being undertaken both at national and branch levels to develop methodologies and systems for the identification and assessment of non-formal learning. Initiators and target groups differ, from those seeking national official certificates or exemption from parts of the training (as in the CINOP approach), to branches and enterprises trying to identify and assess the competences held by their employees.

3.4.4 An NVQ model?

Concluding our discussion of the three countries covered in this section, the overwhelm-

ing acceptance of an output-oriented, performance-based model of education and training is most striking. The general acceptance of learning outside formal education and training institutions as a valid and important pathway to competences seems to go without saying. What is questioned, however, is how such a system should be realised. The UK and the Dutch experiences illustrate some of the institutional, methodological and practical problems linked to establishing a system able to integrate non-formal learning within its framework. The challenge of developing an accepted qualification standard seems to represent the first and perhaps most serious obstacle. As long as assessments are supposed to be criterion-referenced, the quality of the standard is crucial. The UK experiences identify some of these difficulties balancing between too general and too specific descriptions and definitions of competences. The second important challenge illustrated in the UK and Dutch cases, but not reflected in our material on the Irish experience, is related to the classical assessment challenges of reliability and validity. In our material the problems have been clearly demonstrated but the answers, if they exist, not so clearly indicated. The Finns, by networking and training assessors and relevant institutions, have probably indicated one possible strategy. Concluding that qualification standards can never achieve a perfect balance between general and specific descriptions, the Finns focus on the competences of the assessors. This is probably relevant in the UK, Dutch and Irish cases as well.

3.5 A French model? France and Belgium[11]

Like the UK NVQ system, French experiences have influenced the general European debate and development in this area. The *bilan de competence* can be described as the first effort to introduce a full-scale system for the identification and assessment of non-formal and experiential learning. Since the introduction of the *bilan* in 1985, attention to these issues has been very strong. Belgium, in contrast to France, is still at a very early stage of development and has not yet decided on a clear strategy.

3.5.1 France

France has been characterised as an extreme case of 'certificate fixation' (Merle 1998). As in the cases of Italy and Greece (Section 3.3), a certificate not only reflects a formal level of achievement, but the qualities of a person and the rank he or she is entitled to. Mehaut (1977) points to three functions met by French certificates: first, as an internal standard of the education system; second as an external standard for the labour market; and, third, as a personal and hierarchical identifier. This 'certificate fixation' is perhaps best reflected in the system of the *grandes écoles*, but influences behaviour in other areas as well, including vocational education and training. The high value attributed to certificates in France is very much linked to the national and homogeneous character of the education and training systems. Education, including vocational education and training, has been provided within predefined, complete national routes, leaving little room for personal or institutional experimentation. Although changes have taken place during the past decade, the stability of the system has contributed to its transparency; individuals and employers are in the main familiar with the various qualifications awarded at national level.

During the past 10 to 15 years, these systems have increasingly been questioned. Stability, it is emphasised, can also be interpreted as rigidity. The homogeneity of the system may easily turn into an obstacle to the renewal of knowledge and competences with alternative forms of learning not accepted because they do not fit into the prescribed routes defined by the national systems. This criticism has been expressed in a number of contexts, gradually 'spilling over' into legal and institutional reforms aimed at a closer link between formal education and training and the learning that takes place at work. Basically,

[11] Luxembourg would normally have been presented in this chapter but after consultations with representatives of the educational authorities of Luxembourg, Cedefop concluded that the level of activity in this area was too low to warrant an independent national study.

247

we speak of two sets of legal initiatives with somewhat different profiles and objectives. First, the 1985 law on the *bilan de compétence* permits the validation of professional competences acquired outside formal education. The initiative may come from the enterprise or from the worker him/herself. This right was strengthened through the law of December 1991 which states that employees are entitled to educational leave for the *bilan*. According to the law of 1991, the aim of the *bilan de compétence* is to assist the employee to understand his or her professional and personal competences, motivation and aptitudes to facilitate his/her professional as well as educational plans and careers. A *bilan* is divided into three phases: a preliminary phase where the motivation and needs of the employee are clarified and where the procedures/methodologies of the *bilan* are presented. Second, an investigative phase where motivation, personal and professional interests as well as competences are analysed and mapped out. Finally, the results of the analyses are presented to the candidate and used as a basis for dialogue on future training and career plans. After having concluded the process, the candidate receives a synthesis document supposed to identify clearly his or her personal and professional competences, thus helping to clarify the necessary steps to be taken to realise future plans. On average, the described process requires 19 hours. A total of 700 *centres de bilan* have been set up all over France. In 1994, these centres issued 125 000 *bilans* at an estimated cost of FFR 340 million. Three quarters of all requests were made by employees, 52% of these being women, 44% in the age group 16 to 25 and 47% in the age group 26 to 44. Almost 50% of those asking for a *bilan* indicated that *elaboration d'un project professionnel* was their main objective, 20% *recherche d'emploi*, 21% *recherche de formation*. Only a very small percentage, 1.9%, indicated that the *bilan* was a first step taken for validation of a certificate or diploma in the formal education and training system.

Second, the law of July 1992 on the validation of skills acquired by work experience is directly linked to the national framework of diplomas and certificates, and thus recognises the legal equality between competences acquired inside and outside formal education and training. This law, administered by the Ministry of Education and linked to the initial training system (leading to a *certificate d'aptitude professionnelle* (CAP) or a certain level of the *brevet de technicien supérieur* (BTS), is paralleled by a system for 'assessment of competences and skills acquired through work experience' (EVAP), developed by the Ministry of Labour. This system is linked to the certificates issued by the ministry based on continuing training. Certificates issued by the Ministries of Education and Labour are both based on specifications (standards) drawn up in agreement with the social partners in consultative committees (CPSs). Normally, the work of the CPSs has been closely linked to a specific training course but acceptance of experiential learning as a legitimate qualification pathway implies that the specifications also have to consider this aspect. Different from the *bilan de compétence*, the potential of the 1992 law has yet to be realised. Merle (cited above) is of the opinion that the system for acquiring formal qualifications through validation of skills acquired on the job '...has been slow to get under way and is far from meeting workers' expectations'. It is estimated (Colardyn 1999) that approximately 90% of the requirements for every educational diploma awarded by the Minsitry of Education can be met through recognition of prior non-formal learning. This means that all diplomas are accessible via this route, but also that no diploma can be achieved entirely through assessment of non-formal learning. At some point or another, anybody wishing to have their competences assessed within this framework must acquire a diploma.

While the laws of 1985, 1991 and 1992 are important indicators of a changing attitude towards non-formal learning in France, the qualifications awarded by the *centres d'études thermiques et énergiques* (CTH) and certificates of vocational qualifications (CQP) can be seen as an alternative to the traditional certification system because they relate to (practical) skills used in firms and are less linked to following a course. So far, industries have been very cautious in creating CQPs, the number awarded annually is rarely in excess

of 4000. Originally, CQPs were designed to certify qualifications of young people who had followed a course of alternating on-the-job and off-the-job training. Today, the industries developing CQPs have given them very different functions: certification complementing the national education system, recognition leading to career advancement and a system of industry certification parallel to that of the national education system.

In many ways, France can be viewed as the country in Europe with the longest and broadest experience in the area of identification, assessment and recognition of non-formal learning. The legal base established through the laws of 1985, 1991 and 1992, indicates clearly that non-formal learning is important and that its place, relative to that of formal learning, should be clarified and strengthened. Furthermore, the practical experience gained from the system of *bilan de compétence* is important both in terms of volume/costs and methodological experiences. It is also important outside France. Non-formal learning has, more than in other European countries, become an important part of the political debate on education, training and work. The topic is integrated into the national political debate among social partners and has also become a topic covered by researchers.

Michelle Virville's proposal that national sets of qualification benchmarks should be set up within a tripartite structure to allow all validated qualifications, whatever their basis, to be formulated in a common language, can be looked upon as an example of the growing importance attributed to this topic in the French context. On the other hand, the traditionally strong position of formal certificates and diplomas indicates that non-formal learning will not automatically be trusted in the same way as formal learning. In France, as in other countries, legal recognition of non-formal learning is just a first step and general acceptance of alternative forms of learning is another matter.

3.5.2 Belgium

The Belgian situation is different from that of France. According to accessible information, the debate on these issues has only recently reached the national political agenda, and to a varying degree in the French and Flemish parts of the country. Consequently, few actual initiatives have been taken in the area of assessment and recognition of non-formal learning. This may be explained somewhat through the structure of vocational training in Belgium which takes place mainly in educational institutions and specifically in schools specialising in vocational and technical education and training. Compared with many other European countries, the Belgian system is not very strongly linked to the workplace. A very small proportion of young people take part in vocational training through apprenticeships. There might be a link between this predominantly school-oriented approach to training and the lack of focus on non-formal learning outside formal education.

An initiative has however, been taken by the *Conseil de l'éducation et de la formation* of the French community in Belgium. Their suggestion (of 1997/98) is to reform and harmonise the entire system of validation linked to vocational and professional competences, both at initial and continuing levels. A broader concept of qualifications than the existing system is emphasised and proposed. According to this proposal a qualification must be defined as the totality of those competences necessary to execute a task or those interlinked tasks necessary to have a vocation. This is what we previously characterised as a performance or output-based approach to vocational standards. Competences acquired through work experience are underlined in the proposal pointing to the potential inclusion of non-formal learning in the assessment practices of Belgian education and training. This particular proposal is not explicitly linked to French or other 'foreign' models, the change in perspective from an input to an output-based approach is, however, apparent.

The Flemish authorities are currently working on a reform of the vocational training system trying to implement a modularised, 'output-based' model. In this context, the isssue of assessment and recognition of non-formal learning has been raised, and for the first time introduced on the national (Flemish) political

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agenda. The Flemish work, though not very advanced, has so far leaned strongly towards the experience gained in the Netherlands. Both the Dutch system of qualification standards and the APL methodologies developed over recent years are important points of reference. The Flemish case illustrates the important role of mutual learning. To a certain extent we can observe a voluntary, uncoordinated and 'bottom up' form of harmonisation.

4. European trends: Developments at EU level[12]

As noted during our discussion on the various national approaches, the role of the European Union in the area of non-formal learning is interesting and important. First of all, the Commission White Paper on 'Teaching and learning: towards a learning society', has contributed in drawing attention to the issue, emphasising the importance of making competences acquired outside formal education and training institutions visible. Further, the Leonardo da Vinci and Adapt programmes have been important tools for initiating experimentation on methodological and institutional questions. These programmes, through the involvement of a high number of individual project partners, have also supported an international learning process of potentially high importance, the results of which will only be possible to detect in the long term.

In spite of the relatively high political priority given to the topic of learning at Community level, few (if any) attempts have been made to summarise efforts so far. The ambitious proposals of the White Paper have, to a large extent, remained as general policy proposals without any specific or measurable influence on practical policies at EU or national levels. The programmes, of which the Leonardo da Vinci is by far the most important in this context, are difficult to overview. During the period 1995-97, the Leonardo da Vinci programme alone supported more than 100 projects working specifically on questions related to the identification, assessment and recognition of non-formal or experiential learning. This chapter represents one of the first, albeit incomplete attempts to summarise these activities.

4.1 The White Paper on 'Teaching and learning: towards the learning society'

In November 1995, the European Commission adopted the White Paper on education and training entitled 'Teaching and learning: towards the learning society'. Of the five objectives set out in the paper the first is to encourage 'the acquisition of new knowledge' and several positive effects of 'opening up (the) avenues for validating skills' (p. 35) are foreseen. It may:

- generate education and training demand from young people or adults unable or not wishing to enter either a formal system leading to paper qualifications or to undergo vocational training;
- render it possible for each individual to have partial skills recognised under a flexible and permanent system for validating knowledge units;
- identify, assess and reach common agreement on such knowledge units;
- encourage individuals to assemble their qualifications themselves, notably through accreditation of such knowledge units.

The introduction of a 'personal skills card' (PSC) is one of several methods suggested to realise this objective. A PSC providing a record of skills and knowledge should, according to the White Paper, be available to all those who want one. The card should be ap-

[12] This chapter is incomplete in the sense that only a minority of Leonardo da Vinci projects, those linked to the context of the 'automated assessment approach' are covered. During the autumn of 1999, Cedefop completed a survey and an analysis of all the 1995-97 Leonardo da Vinci projects devoted to assessment. In addition to a description of the profiles of these projects, a more detailed follow-up of the results/the implementation results from 20 projects was carried out. This material will be presented in the forthcoming synthesis report on the Cedefop project 'Identification, assessment and recognition of non-formal learning'.

plied to certain fundamental areas of knowledge and even to occupational areas which apply to a number of different disciplines. The White Paper presents the PSC as a 'tool' or a 'lever' to introduce such standards in the Member States. As it is said:

'The aim is not to devise a uniform card and impose it on Europe but to contribute to the development of such tools, so as to progressively arrive at joint standards, including standards that cut across a number of occupations' (p. 34).

It is recognised that many European countries are attempting to identify 'key skills' and the best ways of acquiring, assessing and validating them. National initiatives will, though, be of limited value within a context of increased European mobility. The PSC must be understood as a core element in a European system designed to compare and disseminate validation methods and practices. While not commented upon in any detail, it is assumed that the PSC will depend on broad recognition and acceptance:

'A European accreditation system covering technical and vocational skills will be set up based on a cooperative venture involving higher education establishments, businesses, vocational sectors, local chambers of commerce and the social partners. Finally, support will be given to concluding a whole range of agreements – at company, branch and regional levels, etc. – incorporating the principle of the PSC' (p. 34).

The White Paper did not present detailed plans for the introduction of the PSC. Some details were supplied in a document prepared by DGXXII[13] shortly after the presentation of the White Paper (on 'European skill accreditation system'). With reference to Objective 1 in the White Paper, it states that the aim is to set up a European skill accreditation system over the course of a few years which will enable everybody to have his or her knowledge and know-how validated on a PSC. This requires the identification of a number of areas of core knowledge, vocational /technical knowledge and key skills (cutting across a number of disciplines). These areas must be clearly defined and broken down into coherent basic units classified in increasing order of difficulty. This should, in the words of the author, make it possible to assess an area of knowledge from the most elementary to the highest level. It is admitted that there is no fixed list of knowledge and skills areas which could be tested at European level. However, the subject should be relatively well established (no major doctrinal controversies) and should leave very little room for national or cultural subjectivity. The following examples are given:

- *core knowledge areas*: mathematics, sciences, informatics, geography, foreign languages;
- *vocational/technical skills*: marketing, business management techniques, accounting, etc;
- *key skills*: logistics, organisational techniques, communication, decision-making abilities, risk assessment and risk management ability, negotiating skills and interpersonal skills.

The accomplishment of this accreditation task at European level should be based on the following: first, skills assessment and validation should use a range of user-friendly validation software packages linked by telematic network (Internet) to a central server which will deliver interactive tests on demand, process the result and validate skills at the level tested. Second, candidates wishing to validate their skills should be able to take these tests anywhere in Europe, and as many times as necessary in order to pass. The skills level will be registered on a PSC, which people will be able to build up at the pace and in the manner which suits them. As the system eventually gains recognition, the skills card will complement paper qualifications and become real passports to employment. The aim, it is stated, is to establish a system which all Member States can agree on, so that the PSC can

[13] Directorate General Education, Training, Youth. Now Directorate General for Education and Culture.

25-1

become a European tool to enable people to put their skills to use anywhere in Europe. The point is not to create a single European test (national differentiation should be acknowledged), but the methodology used should be the same throughout Europe and everyone should be able to sit all the tests in all EU languages.

The presentation of the PSC and the European skills accreditation system can be interpreted as *instrumental approaches* focusing more on the technological rather than the political challenges ahead. This is most apparent in the presentation of the European skills accreditation system where the development of 'expert systems' (software packages) and telematic networks (Internet) are presented as prerequisites for a future system and the political, institutional and social basis of methodologies are hardly elaborated at all (see also the discussion in Chapter 2).

4.2 The follow up of the White Paper proposals on assessing competences

Apart from the influence of the White Paper on the general awareness towards the issue of non-formal learning, the most direct follow up of the PSC proposal has been the setting up of an experimental framework where a total of 18 different projects (10 from the Leonardo da Vinci and eight from the Socrates programmes) are working on 'automated assessments'. These projects can be divided into three main groups. One group focuses on the testing/assessment of basic knowledge in mathematics, physics, biology, chemistry, statistics and geography. A second group focuses on needs in specific sectors, such as banking, business administration, process industry, water supply and food industry. The third group focuses on assessing cross-sectoral competences such as computer skills, written expression, languages and key skills. The main emphasis, in line with the White Paper, is to see how far computer-supported solutions can be used.

An evaluation of these was conducted by the Guildford Educational Services in 1998 (at the request of the European Commission). Of the more general conclusions, the following points are interesting relative to the challenge of establishing a European PSC and a European Skills Accreditation System (ESAS):

- it is judged as generally difficult to develop computer-delivered tests which are valid and reliable to a number of different countries at the same time. It is difficult to agree on a common core of content appropriate to all countries, this is especially the case in vocational areas (banking is mentioned as example), but also in academic subjects like mathematics and physics this problem was encountered (curricula differ between countries);

- even where an agreed common core had been identified, the test questions had to be 'localised' (or according to Chapter 2 above, 'contextualised') to take into account the differing conditions in the various countries;

- properly functioning software is crucial, as a wide a range of users as possible should be able to access and security facilities must be developed. Current technology, especially the Internet, still poses some problems for users of the systems;

- there is a need for an administrative infrastructure supporting the tests. If assessments are going to lead to some form of official certification and/or recognition, this is a fundamental demand not covered within the current scope off the experiment;

- the legitimacy of the assessments poses a problem. They should therefore be developed on clear expressions of demand/need, be linked to some professional organisation providing a 'stamp' to the process and, if possible, linked to some accepted European standard. Finally, it is stated that users have to have confidence in the validity and the reliability of the tests/assessments, i.e. the quality of the methodologies used.

Closely linked to the setting up of an experimental framework on 'automated assessment', the Tavistock Institute was asked to

look into the US experiences on 'accreditation of competences through automated cards' (Cullen and Jones 1997) and use this as a basis for discussion on the feasibility of a European PSC and ESAS. The US experiences, in some aspects far ahead of their European counterparts, can only partly be integrated into the European context. Cullen and Jones point to fundamental sociocultural, institutional, economic and legal differences making direct transfer of US theory and practice into Europe difficult.

Thus early results from pilot projects the study evaluated are highlighting cultural differences in the ways in which skills are defined and utilised in the different locales involved. These are articulated primarily in different interpretations of the skills required to do a particular job, and in the terminology used to describe skills.

It is stated that the main obstacles are not to be found in the technological area, there would not appear to be any major technical obstacles against the development of a PSC or ESAS, neither when talking of the 'smart' card or the automated assessment software. The main challenge it is stated, is to be found in the 'sociotechnical contextualisation' of such systems, i.e. embedding the technologies within appropriate institutional and organisational frameworks. The system will stand or fail, Cullen and Jones conclude, on the putting into place of appropriate partnership between government, industry and representatives of worker organisations. Further, such partnerships should be supported by innovations in areas such as occupational classifications and accreditation/assessment networks (the Finnish example of an assessment network illustrates a national development in this direction). In conclusion, Cullen and Jones present two 'scenarios' to illustrate the different directions the PSC and the ESAS may take in the future. The first scenario is entitled 'the big bang' and envisages a comprehensive pan-European skills accreditation system. Such a system would be based on an evolving database of occupational titles, descriptors and competence definitions. It would be structured according to a content-model corresponding to the organisation of the European workplace. This system would be a variant of the existing US O*Net. A European competence standardisation agency, responsible for the collecting of data on various skills is envisaged in this scenario, together with a European accreditation agency, responsible for high level management of activities at national, regional and sectoral levels. The second alternative is entitled the 'evolutionary scenario' and opposes the 'top down' approach of the 'big bang' proposing instead to build on existing, national and local initiatives, to test to what extent a pan-European initiative like the ESAS can be transferred to different sociocultural settings and, finally, through the implementation of pilot projects in a limited number of sectors (to gain experience). The major advantage of the 'evolutionary scenario', it is stated, is that it is workable and that it is embedded in existing sociocultural settings.

Both the Guildford and the Tavistock (Cullen and Jones 1997) studies criticise more or less explicitly the tendency to develop assessment methodologies isolated from their sociocultural context. Of particular interest is the conclusion from Guildford on the difficulties encountered when trying to identify a 'common core' of content appropriate to all countries. The fact that this problem was encountered in academic subjects like mathematics and physics, described by the Commission in their follow up of the White Paper as 'objective areas' of knowledge, underlines the seriousness of the challenge. This does not alter the fact that both Tavistock and Guildford point to interesting and promising technological developments. The speed of these developments is increasing and the ongoing experimentation through the Leonardo da Vinci and Socrates programmes will undoubtedly bring forward useful experiences. The success of the 'computer driving licence' project, one of the 18 projects supported in this specific context, is worth noting. Supported by professional associations in several countries, this specific automated test has become more and more popular. Operating within a limited area and covering skills which can be identified in a clear and unambiguous way, this test is one of the few visible results of the visions presented in the White Paper.

4.3 Conclusions

No final conclusion as to the role of the EU in the area of assessment of non-formal learning can be drawn at this stage. As previously stated, the emphasis of the Commission on this topic has 'pushed' the issue at national and sectoral levels. The White Paper helped to define the issue in a clearer way and thus supported the processes at national level. The strategy of the White Paper, focusing on European standards and a European skills card to be implemented on a pan-European level, has clearly not been followed up. The high activity at national level is motivated by practical and long-term challenges at national level (the need to bridge learning areas and learning levels), not by the wish to create transparent and harmonised systems at European level. The question is more how current European activities, basically in the form of projects in the Leonardo da Vinci and other programmes, can support the practical initiatives at national, regional and sectoral levels. The 'evolutionary scenario' presented by Tavistock illustrates such a strategy.

5. Conclusion

Generally speaking, the focus on non-formal learning at work, in leisure activities and at home, is more a question of improving the quality of learning (by broadening the knowledge and competence base) than of increasing the capacity of learning. Having surveyed the different Member States of the EU on this issue, the basic motivation behind efforts in attempting to capture non-formal learning seems to be the hope to identify and utilise other forms of learning and knowledge than those stemming from the formal system. As indicated by the White Paper (1995), there is a need for a broader knowledge base, a need to combine the qualities of specialised teaching in education and training institutions and the qualities of experienced-based learning from actual and practical working/life situations. In this way, the growing interest and focus on non-formal learning is not so paradoxical as it may seem at first glance. Perhaps it can be viewed as a more mature way of understanding the dynamics underlying reproduction and renewal of knowledge and competences. This view emphasises the heterogeneous character of learning. Learning cannot be standardised, rather, we should try to utilise and combine as many and as various forms of learning as possible. But as the follow up of the White Paper has shown, to formulate abstract and general objectives is one thing, to design and implement practical solutions is another.

Methodologies and institutions for the assessment of non-formal learning can be looked upon as necessary tools to build bridges betwee various forms of learning, from education to work and from initial education and training to continuing education and training. Although incomplete, the experimentation and planning taking place in most EU/EEA countries is an important signal of a changing perspective. Learning taking place outside formal education and training institutions is increasingly receiving attention. This means that the question of recognition of non-formal learning is located at the centre of the debate on lifelong learning and is increasingly understood as a critical question to solve if such an approach is to be realised. This does not mean that the exact role of assessment methodologies in the context of lifelong learning has been clearly defined. We still speak of general objectives at a rather high level of abstraction. A smooth interrelation between learning taking place in school and in work contexts implies a reduction of institutional barriers and an acceptance of the existence of a variety of learning needs and learning forms. A situation where the formal education and training system is given a monopoly on recognition of non-formal learning is clearly problematic. If the aim is to broaden the range of competences utilised in society in general, a shift in the balance between learning in education and work has to take place. This can take place at least partly through careful 'institutional design'. Securing broad participation in the development and definition of qualification and competence standards is probably one of the most crucial steps to be taken to increase the legitimacy of methodologies and systems (see also Chapter 2). The actual development of methodolo-

gies and institutions at national level illustrates this challenge. In the few cases where methodologies and/or institutions operate at more or less full scale, non-formal learning is treated as a subcategory to formal learning, not as a specific kind of learning potentially leading to different sorts of competences. As we have seen in France, this question has been raised and experimentation has taken place. This however is not the case in most countries for the moment.

The change from an input to an output-based approach to education and training, as demonstrated through the policy changes of several Member States of the EU, will lead to individualisation (or a 'tailoring') of competences. By accepting a greater diversity of learning contexts and learning paths, the need for control mechanisms increases. Unlike monolithic and centrally controlled education and training approaches, the need to measure and sort individuals becomes crucial, a precondition for the functioning of the overall system. The need to measure and sort is increasingly felt at many levels and in many contexts such as enterprises recruiting, promoting and dismissing people and by educational institutions deciding on who is to be granted access. The loss of central control experienced when promoting more diversified education and training (which also may be termed decentralisation), is balanced by the development and introduction of new control mechanisms, controlling individuals rather than institutions. This highlights the ethical dimension of assessments. The question of methodological efficiency is not only a question of technical possibilities and limitations, it may also be a question of how far into the personal domain assessment methodologies (sorting mechanisms) should be allowed to penetrate.

Irrespective of the interpretation chosen, and it is obvious that still many more are possible, links between the formalised and non-formalised domains of learning are currently being strengthened through the introduction of methodologies and systems for the identification, assessment and recognition of non-formal learning. This trend can be observed in a majority of Member States of the EU/EEA and seems to be gaining momentum.

Bibliography

Carneiro R., Conceicao P., 1998. *Learning by doing and formalized learning: a case study of contrasting Industrial development patterns in the Portugese industry*. Lisbon and Austin, Texas (Draft, to be published)

Cedefop, Bjornavold J., 1997. *Identification and validation of prior and non-formal learning*. Thessaloniki

Cedefop, 1998. *Identification, assessment and recognition of non-formal learning. Ireland*. Thessaloniki

Cedefop, 1998a. *Identifizierung, Bewertung und Anerkennung von früher und informell erworbenen Kenntnissen, Deutschland*. Thessaloniki

Cedefop, 1999a. *Identification, assessment and recognition of non-formal learning. Greece*. Thessaloniki

Cedefop, 1999b. *Identification, assessment and recognition of non-formal learning. Italy*. Thessaloniki

Cedefop, 1999c. *Identification, assessment and recognition of non-formal learning. Austria*. Thessaloniki

Cedefop, 1999d. *Identification, assessment and recognition of non-formal learning. Norway*. Thessaloniki

Cedefop, 1999e. *Identification, assessment and recognition of non-formal learning. Finland*. Thessaloniki

Cedefop, 1999f. *Identification, assessment and recognition of non-formal learning. Denmark*. Thessaloniki

Cedefop, 1999g. *Identification, assessment and recognition of non-formal learning. Sweden*. Thessaloniki

Cedefop, 1999h. *Identification, assessment and recognition of non-formal learning. Methodological study of the Dutch system*. Thessaloniki

Cedefop, 1999i. *Identification, assessment and recognition of non-formal learning. The Netherlands*. Thessaloniki

Cedefop, 1999j. *Identification, assessment and recognition of non-formal learning*. Portugal. Thessaloniki

Cedefop, 2000. *Identification, assessment and recognition of non-formal learning. Spain*. Thessaloniki

Cullen J., Jones B., 1997. *State of the art on approaches in the USA of accreditation of competences through automated cards*. Tavistock institute, London

Engeström Y., 1993. Developmental studies of work as a testbench of activity theory: The case of primary care medical services. *In*: Chaiklin S., Lave J., eds. *Understanding practise*. Cambridge University Press, Cambridge

Engeström Y., 1994. *Training for change: New approach to instruction and learning in working life*. International Labour Office, Geneva

Eraut M. et al., 1996. *The assessment of NVQs*. University of Sussex

European Commission, 1995. *White paper on teaching and learning: towards the learning society*, Luxembourg

Guildford Educational Services, 1998. *Evaluation of objective one pilot projects. Report to the European Commission*. Guildford

Görner R., 1999. *Statement anlässlich der Pressekonferenz 13 January 1999*, DGB, Bonn

ISFOL, 1998. *Unita capitalizzabili e crediti formativi. Metodologie e strumenti di lavoro*. Milan

Klarus R., 1998. *Competenties erkennen*. Cinop, s-Hertogenbosch

Lave J., Wenger E., 1991. *Situated learning; legitimate peripheral participation*. Cambridge University Press, Cambridge

Méhaut P., 1977. Le diplôme, une norme multivalent. *In*: Möbus M., Verdier E., eds. *Les diplomes professionnels en France et en Allemagne*

Merle V., 1998. The evolution of systems of validation and certification. What are the possible models and what are the issues for France? *Vocational Training; European Journal 12/1997*. Thessaloniki

OECD, 1995. *Reviews of national policies for education. Austria*. Paris

Polanyi M., 1967. *The Tacit Dimension*. New York

Simon H., 1973. The structure of ill structured problems. *Artificial Intelligence*. 4, pp. 181-201

SOU 1998:165: *Validering av utländsk yrkeskompetens*. Stockholm

Tjanstmannens Centralorganisation. 1999. *Varderat Vetande: validering av kompetens-att bedöma och erkänna kunnande*. Stockholm

Undervisningsministeriet, 1997. *Adult Learning in Denmark*. Copenhagen

Wolf A., 1995. *Competence-based assessment*. Open University Press

The problems raised by the changing role of trainers in a European context

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Abstract

The process of training and its response to changes in work and employment, and to new competence needs requires the extension of continuing training for teachers and trainers to anticipate the needs and modalities of education and training systems.

This paper addresses three particular dimensions of this development which influence the roles and competences of trainers: the qualifying organisation which has to develop flexibility, reactivity and adaptability of organisations and people; the acquisition of competence to prevent unemployment and marginalisation; new information and communication technologies which penetrate all activities related both to production and education and training. New profiles of trainers are emerging: trainers have to handle peripheral tasks, e.g. orientation, assessment of competences, support integration to work; and cope with new technologies as pedagogical mediators, applying and piloting multimedia training.

Table of contents

1. Introduction 255
1.1 The 'skill-building organisation' factor 255
1.2 The 'skills' factor 255
1.3 The new information and communication technologies factor 255
2. The work of the Training of Teachers Net (TTnet) 256
2.1 Innovation 256
2.2 Tutoring 256
2.3 The evolving role of the trainer 258
3. Conclusions 259
Bibliography 261

259

1. Introduction

Ongoing adaptation, as well as anticipation of needs and the methods by which education can respond to these needs, are nowadays necessary if the training process is to adjust to changes in work and employment and consequently provide for the new skills that these changes require.

Three particular dimensions of these changes, which are modifying the roles and skills of trainers, can be pinpointed from the current situation.

1.1 The 'skill-building organisation' factor

The purpose of the organisation of skill-building activities, perceived as a system of continuous learning, is to make the organisation and people more flexible, reactive and adaptable. In this respect, the purpose of training is help people to acquire a range of skills: the ability to intervene in complex processes, the ability to reason logically in order to put action into practice in an increasingly abstract universe, the ability to communicate with other people and to lead teams and the ability to pass on knowledge and expertise in new and unknown situations.

1.2 The 'skills' factor

New practices are being developed in the social field to find answers to growing unemployment and marginalisation. Their aim is to guide individuals along the path of redeployment and retraining. This kind of approach focuses chiefly on identifying and building on skills already acquired: skill reviews, vocational guidance, validation and recognition of prior learning, making more of transverse occupational skills and placing a greater emphasis on the cognitive dimension of learning.

1.3 The new information and communication technologies factor

Information technologies are playing an increasingly important part both in activities linked to production and in activities linked to education and training.

In this respect, they are forging a closer link between 'learning methods' and 'production methods'. Working situations and learning situations are tending to become closer, if not identical, from the point of view of the abilities that they mobilise.

The use of the information technologies in training projects is nevertheless coming up against certain limits, as stressed in a report by DG XIII (European Commission 1996):

- too little is known about these technologies, their specifications, the operational uses to which they can be put and their needs from the point of view of the training environment;
- inadequate account is being taken of the critical factors connected with the introduction of open and distance learning systems;
- it is proving difficult to get to grips with the educational issues raised by the tripartite relationship between learners, trainers and technologies.

These three factors are having a direct impact on trainers and are drastically changing what has long been accepted.

The skill-building organisation factor: development of mentoring tasks that combine the logics of both work and learning and the emergence of new mixed profiles (trainer-tutor, occasional trainer).

The 'skills' factor: development of peripheral activities upstream and downstream of the training process (guidance, skills review, help in constructing personalised paths, integration assistance).

The information technologies factor: development of skills in educational and training engineering (media presentation of educational messages, design and steering of multimedia systems).

2. The work of the Training of Teachers Net (TTnet)

In view of the strategic role that changes in the tasks and skills of trainers plays in the question of improving their professional skills, a question that has to be seen in the context of the different Member States, Cedefop's TTnet (Training of Trainers Network) network chose to focus its work in 1998 and 1999 on three key areas:

1. Innovation as a transferable practice, a key factor in the development of training occupations (theme of a study and of the Faro workshop).
2. The tutoring function as an area of convergence within which a European concept for improving the professional skills of trainers can be formulated (theme of the Berlin workshop).
3. Changes in the occupational role of the trainer (theme common to all activities and dealt with in particular at the Faro seminar and in a study of the impact of training media on the occupational role of the trainer).

2.1 Innovation

The study dealing with innovation was conducted as part of TTnet's work. The purpose of this study was to provide a framework through which problems raised by experiences combining training and the new communication technologies could be analysed. Two findings shaped its approach: that of a contradiction between innovation and transfer, linked to the necessarily non-reproducible nature of innovation, and that of a contradiction between innovation in enterprise and innovation in training. Whereas innovation is a prerequisite for enterprise development, in the case of training systems it is still an isolated practice that is not integrated into the system and is not therefore able to provide it with any stimulus. The study therefore looked at work on innovation undertaken in productive organisations (enterprise sociology) to endeavour to establish the bases for an operational definition of innovation, i.e. a definition paving the way for a dynamic understanding of innovation as a process and laying the foundations for the creation of an analysis tool.

Five complementary factors played a part in the operational definition of innovation provided by this study:

1. Innovation is a new combination of resources that is not improvised but is the result of a process entailing three key stages: destabilising change, re-organisation of parameters and production of a result – it is therefore an *organised* process.
2. Innovation is also defined by its triggering factor and its outcome – it is therefore a *targeted* process.
3. It can also be defined as creative and evolving, where the unorganised and the organised interact positively to produce new rules and new results. Innovation therefore entails both managing the stages of the process and accepting that the unknown plays a part, i.e. accepting that the process itself is creative – it is therefore an *organising* process.
4. In this respect, ongoing action at three levels is needed to manage innovation: definition of the product, definition of the process and definition of methods – it is therefore a *multi-dimensional* process.
5. In a process of this kind, the roles and positions of the various players cannot be set in stone. The process itself creates the player – it is therefore a '*self-creative*' process.

2.2 Tutoring

The tutor is an employee designated by the employer to provide a person in the enterprise with workplace training. He carries out this training in addition to his usual work and remains subject to the normal production constraints.

This definition, proposed by the Leonardo analytical study presented at the Berlin workshop, raises three questions: the extent to which enterprises are responsible for the

training process, the tutoring function itself, i.e. is it a separate occupation or part and parcel of the organisation as a whole, and lastly the cultural parameters that, by giving tutoring a role of occupational and social integration, shape how it takes place.

The results of the survey show that the way in which tutoring is organised is shaped by three main criteria:

- The value that society as a whole attaches to vocational education and training. This value is expressed through the social, personal, moral and statutory recognition of those taking part in it. It is underpinned by individuals themselves who are the creators and protagonists of this value.

- The enterprise's degree of responsibility for vocational training: Is the enterprise responsible for preparation for a diploma? Does it share this responsibility with a training centre or is it associated with this centre merely as a place of work experience during a training course?

- The way in which enterprises manage the skills that they require: do they produce them internally or buy them in from outside? If skills are produced internally, enterprises are developing a system for transmission of skills in the short and medium term and will mobilise employees to train future recruits.

Several tutoring models are emerging in the four countries studied. At one extreme, in Germany and Austria, tutoring is organised and considered as a key and regulating component of the dual system for the acquisition of a vocational qualification by young apprentices. To achieve this aim, selective and monitored access to jobs as tutors (following success in an examination), an educational content that is relatively standard throughout the country and monitoring of the work of tutors by authorities outside enterprises, act as a quality assurance system. At the other extreme, tutoring in Spain is still completely informal and is intended to provide an insight into occupational activity or to help new recruits to find their feet. Between these extremes, France has multi-purpose tutoring whose aim is not just to help young people and adults with problems to acquire a vocational qualification but also to help them to become socially integrated.

The works of the Berlin workshop confirmed that the degree to which enterprises are responsible for the organisation of training varied from one country to another, in keeping with three separate models:

- The enterprise is responsible for training: tutoring is formally established, regulated and codified. It has to satisfy high-level needs in the area of qualifications and the planning of teaching;

- Training is shared by the enterprise and the training centre: this predominates in the case of alternance training. Tutoring is more informal and the exemplary value of practice is what counts;

- The enterprise plays a secondary role in the training process and complements the training centre: the task of tutoring is more one of guidance and encouraging.

Obviously, no model has been fully implemented. Each system reflects a predominant trend, and develops in relative stability. In France, EDF (French electricity company) provides an example, showing that after a period during which responsibility was delegated to training institutions, enterprises are now taking more responsibility for training and for skill evaluation. The recent upgrading of vocational training and new thinking that is encouraging large enterprises to consider their work organisations as learning organisations mean that France is in an intermediate position.

Overall, tutoring is a function shared by several categories of people in an enterprise, depending on its type of activity, its size and its hierarchical organisation.

It involves different levels of responsibility in the enterprise (from the tutor to the training director or the personnel director) as well as different vocational qualifications.

Tutoring work is thus distributed between different hierarchical levels in the four countries:

- The training officer (*Ausbildungsleiter* in the dual system) administers and manages tutoring in large enterprises;

- The employee designated by the employer to train trainees on a daily basis as a tutor in the strict sense of the word. Such employees have a key role to play in the educational process and in the relationship with the learner. In very small enterprises, this tutor may be the head of the enterprise who then combines all the functions mentioned above.

- Other employees who, without being expressly designated, help to train learners in a one-off way and are spontaneously asked to do so by the designated tutor.

From the point of view of the Community dimension, two conclusions can be put forward here:

a) Prior to any study of the role of the tutor, the parameters that determine how this role is performed in a given environment must be identified (in particular parameters linked to the characteristics of the training system and to the cultural dimensions that influence how skills are organised and distributed). Any comparative study therefore requires preliminary work to be undertaken in order to understand how each work system actually operates and to look for clues to assist understanding and ensure clear terminology: the use of specific tools and glossaries may prove relevant here.

b) Once this work has been completed, discussion of the role of the tutor makes it possible to locate common areas for investigation and cooperation, especially if these are areas about which the experts are raising questions and for which joint research into solutions may help to create a European dimension:

Changes in the role of the tutor: In a context of rapidly changing occupations and labour organisation, to what extent should the problems raised by the creation of new occupations reshape the traditional role of the tutor?

Links between theory and practice, incorporating issues raised by the division of roles between vocational schools and enterprises and issues linked more directly to the increasing complexity of the tutor's teaching tasks: Should trainers know how to mediate, understand or devise, or all three at the same time?

Building up tutoring skills: On what foundations does the vocational expertise of tutors rest? Should priority be given to an educational or a managerial view of their task?

2.3 The evolving role of the trainer

The findings of the Contrat d'Etudes Prospectives (Forward Studies Contract) on training occupations in the competitive sector commissioned by the French Ministry of Labour highlight five development variables in relation to training occupations:

a) The first variable has to do with the *optimisation of the cost-quality ratio*. It is necessary in this respect jointly to manage cost and quality parameters by introducing the notion of educational productivity. This development also reflects a new focus on the problems raised by a more instrumental view of training evaluation.

b) The second variable has to do with the *relationship between training and work* where there is a marked trend towards a dilution of training through work and within organisations, leading to the emergence of new functions (tutoring, coaching) and the incorporation of training into occupational tasks.

c) The third variable has to do with the *opening up of training systems;* the proliferation of places and methods of training (databases, exchange networks, resources centres) breaks up the unity of place, action and time of the training process. This highlights the drastic changes affecting trainers' profiles from the point of view of their relationship with knowledge and their re-

263

lationship with their audience. This variable obviously contains the seeds of a genuine "crisis of identity".

d) Another change, closely linked to those affecting training systems, concerns *the more important place of the individual in training*. Financing measures for training (training cheques, time banks, etc.) and the development of accompanying measures (guidance, skills reviews, project monitoring) upstream and downstream of training schemes reflect this trend. Here again, new skills that do not really come within the conventional role of the trainer are being required.

e) Trainees also have to be seen as a variable. In the French system, there are three main sectors: the private enterprise market, the public market and very small enterprises and professional practitioners who form a sector that is still very fragmentary but is growing.

According to the findings of the Forward Studies Contract, all these developments are likely to introduce such radical changes into training occupations that it will not possible to speak of an occupation but rather of activities with a variable-configuration, whose structure will depend on specific situations, within four occupational families:

1. leadership of training schemes and provision of guidance services;

2. training engineering and educational engineering;

3. marketing and commerce;

4. management.

Attempting to analyse the development of training in a forward-looking context nevertheless entails risks:

- deducing the role of training systems from developments in the socio-economic context makes them dependent on a market logic. A proactive role, emphasising cultural references, should be envisaged for training, especially in the European context. Constructing a European framework for the training of trainers boils down to including it in a plan in which social cohesion is more important than economic factors;

- At the same time, forward studies, as an interpretation of trends, should be kept as a salutary exercise that makes it possible in future to regulate more effectively a supply of training for trainers which had, up to then, developed without real anticipation or steering;

- If their findings are taken up by the professional players, forward studies then become a tool to steer the development of the profession.

To conclude, while it is undoubtedly clear, at present, that the training function will be radically changed, it is impossible to determine exactly what form these changes will take. If we are to move beyond hypotheses, we must set up instruments and a strategy. Monitoring of innovative experiments in the training field could offer help in this respect for the work of the training of trainers project

3. Conclusions

While the main feature of the 1980s was the increase in the quantity of the training supply, brought about by the growth of continuing vocational training markets, the new trend at the end of the 1990s was the increasing priority attached to the organisation and steering of the qualification system for trainers:

- through a *forward-looking approach* providing scenarios for the development of training (such as the Forward Studies Contract for training occupations in France);

- through the *definition of standards*, for the certification of agencies and the qualification of trainers (as in Italy, where a situation of dispersion and regional disparity has been replaced by a coherent market system);

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- through the *publication of charters of trainers' activities and tasks* (such as the German guidelines of November 1998);
- lastly, through *the organisation of training for trainers through networks, partnerships and distance learning* (aim of the network set up by the Italians and of the Autofod experiment: 'open distance self-training").

This work is taking place in two dimensions: *improving the internal coherence of actions* within the training system and *harmonising standards* from the point of view of the construction of Europe.

Bibliography

Blignières A. de, 1998. *Criteres et parametres pour identifier l'innovation dans le domaines des nouvelles technologies appliquées à l'enseignement et à l'apprentissage*. Report for Cedefop, Final report, Paris

Centre Inffo, Centre pour le développement de l'information sur la formation permanente, 1998. Leonardo analytical study on *Les profils professionnels, pratiques et formation de tuteurs en entreprise en Allemagne, Autriche, Espagne et France*. Paris

Debaty P., 1998. *Nouveaux medias et changement du rôle professionnel du formateur*. Interim report, 1998

European Commission, 1995. *Teaching and learning: towards the learning society*. White Paper

European Commission DG XIII, 1996. *Brainstorming session in future multimedia skills*. Luxembourg

Part two:

Lifelong learning and competences: challenges and reforms

Lifelong learning – How the paradigm has changed in the 1990s

Martina Ní Cheallaigh

Abstract

Lifelong learning (LLL) is about learning throughout the life-span. In the early 1970s the concept of lifelong learning took on new importance. What has happened in the interim? Is there a paradigm change associated with more recent efforts virtually to recreate the concept?

The report treats important elements of today's lifelong learning strategies: the 'foundation skills' or the necessary platform on which to build one's learning throughout life, i.e. the ability to 'learn for life'; the transition from school to work and how certain types of initial training facilitate this better than others; pathways and bridges between various education and training routes which enable the individual to return to formal learning at any time in the life-span; the increasing importance of non-formal learning and how this should be linked to formal systems of accreditation and recognition; upgrading the skills of the workforce and maintaining the employability of those at risk, e.g. low skilled and older workers; increasing access to and motivation to learn, especially among disadvantaged groups; the role of the various actors – governments and public administration, enterprises, educational establishments, individuals, the use of new technologies; and new partnerships and networks. This report concentrates on that period of life from the end of lower secondary education (which corresponds in most Member States to compulsory schooling) and throughout working life.

Table of contents

1. **Introduction** 267
2. **Terminology and definition** 267
3. **Background and development** 268
4. **International policies in the 1990s** 270
5. **Situation in selected countries** 271
   5.1 The case of Sweden 272
   5.2 The case of Japan 273
6. **Youth vocational education and training** 275
   6.1 Foundation skills 275
   6.2 School-based vocational education 276
   6.3 Work-linked pathways 278
      6.3.1 Development of varied forms of work-linked training 279
      6.3.2 Apprenticeship 280
      6.3.3 Progression 280
7. **Continuing vocational training** 281
   7.1 Statistical analyses – shortcomings 281
   7.2 Emerging needs for continuing education and training 282
   7.3 Enterprises 283
      7.3.1 Learning enterprises 284
      7.3.2 Small and medium-sized enterprises 285
   7.4 Networks 285
   7.5 Decentralisation 286
8. **Higher education** 287
9. **Non-formal learning – recognition and accreditation** 288
10. **Educators** 289
11. **Disadvantaged groups** 291
   11.1 Educational dropouts and the young unemployed 291
   11.2 Unemployed adults and low-skilled workers 292
   11.3 Older workers 293
12. **Information and communication technologies** 294
13. **Financing** 295
14. **The paradigm change** 297
15. **Where more research is needed** 298
16. **Conclusions** 299
17. **Annexes** 300
18. **Bibliography** 315

269

1. Introduction

Lifelong learning (LLL) is about learning throughout the life-span. It is clear from our daily speech that this is not a new concept. We say things like: 'it's never too late to learn'; '*Man lernt immer was dazu*'; '*ní thagann ciall roimh aois*' (understanding doesn't come before age).

However, in the early 1970s the concept of lifelong learning took on new importance spurred on by the emergence of three similar but independent statements from the Council of Europe, UNESCO and OECD. At that time, the issues were the need to develop alternative educational approaches to the front-end loading of education and training at the initial stage of one's life, the demand for more equal distribution of education among the various social groups, general dissatisfaction with the existing education system which was not meeting the changes in the world of work which demanded more flexibility, the awareness that personal development for many people may well mean exploiting opportunities offered later in life, forging of links between education, social and labour market policies (OECD, 1975). So if they had got this far in the early 1970s, what happened since? Why in 1996, did many of the same organisations, plus the European Union see fit virtually to recreate the concept?

To decide if the paradigm change has occurred, we will begin by looking at the definition and how it has evolved. Thereafter we will treat important elements of today's lifelong learning strategies: the 'foundation skills' or the necessary platform on which to build one's learning throughout life, i.e. the ability to 'learn for life'; the transition from school to work and how certain types of initial training facilitate this better than others; pathways and bridges between various education and training routes which enable the individual to return to formal learning at any time in the life-span; the increasing importance of non-formal learning and how this should be linked to formal systems of accreditation and recognition; upgrading the skills of the workforce and maintaining the employability of those at risk; increasing access to and motivation to learn, especially among disadvantaged groups; the role of the various actors – governments and public administration, enterprises, educational establishments, individuals; the use of new technologies; and new partnerships and networks. For the purpose of this report we are not looking at lifelong learning form the 'cradle to the grave', although we are aware that this is the acceptable scope of the concept, but we will concentrate on that period of life from the end of lower secondary education (which corresponds in most Member States to compulsory schooling) and throughout working life.

2. Terminology and definition[1]

The three pioneering texts which defined the original concept were:

1. Council of Europe, Council for Cultural Cooperation, 1971. *Permanent education: fundamentals for a integrated education policy;*
2. UNESCO [Faure et al.] 1972, *Learning to be;*
3. OECD, 1973, *Recurrent education: a strategy for lifelong learning.*

They also provided the terminology which has been used interchangeably ever since. The term lifelong learning has had no established 'common usage' and this persists today with each country taking on board elements of the concepts which suit its current predicament. *Permanent education* was the English translation of the French *éducation permanente* which was used by Lengrand in 1965 (*Education permanente*, UNESCO). However, the more usual translation became '*lifelong education*'. In 1981 Jourdan tried to distinguish between them, defining '*permanent education*' as refreshing or keeping up-to-date; '*lifelong learning*' as referring to the use of all educational programmes offered by any agency or body; '*recurrent education*' as a lifelong proc-

[1] A more complete description is given by Sutton, 1994, p. 3,416 ff.

ess of periodic participation in educational programmes, and *'continuing education'* he referred to as rounding off the individual's education, providing further education or retraining.

In the context of the time, all these terms and texts understood education as something systemic and institutionalised. However, they did recognise learning settings outside formal institutions, the growing diversity of learning technology and materials, and the independence of the learner. By the more utopian adherers, it was seen as a means of empowering the masses, in contrast to conventional formal education which prepared them for economic subservience and maintaining the social status quo. On the level of curriculum, there was a realisation that it would not suffice to extend traditional schooling throughout adult life, new methods were necessary, perhaps even 'deschooling'.

As time went on, there emerged grave doubts about its 'revolutionary zeal' in reaching those who most needed it. The social divide remained with the less educated adults receiving inferior opportunities of second chance education. Initiatives in open and distance learning aided primarily higher education, e.g. the Open University. By the UN world conference on 'Education for all', Jomtien, Thailand, March 1990, particularly UNESCO had moved its focus from lifelong learning to the 'universality and quality of initial or basic education for children and hitherto illiterate or undereducated adults'.

Summing up the development, Wain (1993) claimed that broadly speaking a 'concept' lifelong education had not developed its own meaning but was used by different persons to mean different things. In common usage, it had become synonymous with 'adult education' and those writing about it and involved in adult education exploited the currency of the newer term. This he refers to as the 'minimalist' view. He also described the 'maximalist' view shared by theorists who aim for a 'reconceptualization of the whole of education', their ultimate goal being a 'learning society', to 'reform society itself through reforming its educational philosophy and structures and policies'. He also refers to evidence from the literature that the 'maximalist' view of lifelong education had not advanced much since 1979, while identification of lifelong education with adult education was widespread, even in the *International journal of lifelong education* in which he himself was writing. He concludes:

'Were the "maximalist" view to disappear one danger is that the implications for the earlier phases of education in childhood and youth, of regarding education as a lifelong process, would be lost completely or cease to be an issue, chief among these the need to work on cultivating "educability" at these stages rather than working towards some finished product of the "educated person"' (p. 95).

In 1994, the second edition of the *International encyclopaedia of education* still gave preference to the term 'lifelong education' over 'lifelong learning' which shows that prior to the European year of lifelong learning, 1996, the pendulum had not yet fully swung in favour of the learner and away from the process of education. However, one thing which both editions reiterated was the difficulty of carrying out research on this broad topic: 'one is dealing with a guiding principle statement of belief, rather than a precise planning proposal, and in the nature of the approach a multitude of horizontal factors should be taken into account' (Sutton, 1994, p.3421). This also proved a challenge in researching this paper. Available research consists of myriad work on individual aspects, each one of which could quite justifiably be considered as a lifelong learning issue.

3. Background and development

In the early 1970s, the concept of lifelong learning, had two main elements: it provided for the spread of post-compulsory education over the whole lifespan of the individual and for it to be organised in a recurring way, alternating with work or leisure or even retirement.

Schütze and Istance (1987) point out that the ensuing economic and social change in the

years following the OECD's formulation of its 'strategy for lifelong learning' provided 'formidable obstacles' to its realisation. The first oil crisis occurred in 1973.

'The climate of reform that coloured the 1960s has been succeeded by one of greater caution and retrenchment – more realistic, perhaps but less conducive to radical reform. Seemingly limitless economic growth and relatively full employment have given way to prolonged labour market difficulties, consequent upon structural economic change. The 1980s are typified by financial constraints and, in many OECD countries, education now suffers a declining share of the public purse' (p. 14).

While at the same time they stressed that

'....the rapidity and nature of these social and economic changes have strengthened not weakened arguments in favour of this strategy, even if it has become more difficult to implement it' (ibid).

Lifelong learning as envisaged in the 1970s was 'typified by full-time education in alternation with full-time work and by implication under the coordinated direction of a public, decision-making authority' (ibid.). Over the next 15 years, down to the period when Schütze and Istance were writing, a number of changes had already taken place which necessitated rethinking the idea. In some countries, compulsory education was prolonged. Rising youth unemployment meant that new forms of access to education and training were developed for 16 to 19 years olds, usually corresponding to upper secondary education. The new programmes, also for the 19 to 25 age group, had an emphasis on (vocational education and training) VET, some of which contained elements of work experience. Terms like 'alternance' and 'sandwich course' became common place. In Germany, the 'dual' system had just been given new impetus in the form of the *Berufsbildungsgesetz* (BMBW, 1969), which was introduced to strengthen its legal basis and to elaborate educational goals for vocational training. The demand for education later in life was rising and there was a new demand from senior citizens or those who availed of early retirement. Post-secondary and adult education responded by offering short and modular courses and there was an increase in non-university diplomas, some with a practical component as in the case of the national institutes of higher education in Ireland. Distance learning, part-time studies and open universities developed.

Added to this, labour market authorities took up the challenge and started to fight unemployment with initiatives such the Youth Training Scheme (YTS) in the UK and labour market training for the adult unemployed in Denmark, along with many examples of return to work programmes for women and the long-term unemployed. Enterprises also began to adapt to the changing times and working-time arrangements became more flexible.

In the meantime, the question of competitiveness and performance has come to the fore. In the early 1980s, a study was launched in Britain which examined the VET systems of her main competitors – Germany, USA and Japan – countries which saw 'education and work competence as a key to their economic success', although the correlation had never been measured (Hayes, 1984). The study also mentions the evolving idea of the learning company in the US, where some enterprises, particularly in the hi-tech industry saw a continuous need for learning and the participation of as many employees as possible. Today every company is confronted with this same need not only because of rapidly advancing technologies, but also because of the introduction of new products and processes, changes in management, work organisation and structure, and globalisation of markets, all of which accelerate the depreciation rate of skills and knowledge acquired before entry into and during working life.

The consequences of these changes are the high rates of unemployment, particularly among older workers whose skills become outdated most quickly or whose jobs are moved elsewhere, and the demand for higher level initial education and training. As a result there is now an acceptance of the importance of 'employability'- development and maintenance of workers' skills so that they

have the knowledge and ability necessary to stay in employment throughout their working life – and the empowerment of the individuals to influence their own employability by becoming independent, lifelong learners. In this context, lifelong learning must be seen as a requirement, as well as a right 'for all'.

The emphasis is, therefore, turning to self-directed learning, with the individual taking responsibility for his/her own learning path, given the prerequisite that he/she has the necessary apparatus to take on this role. The offer of education and training has become much more complex and varied than the more or less one-way school system which existed in the late 1960s. Learning is also becoming more individualised, as jobs become more tailor-made and there is greater recognition of work-based experience and non-formal learning in diverse settings outside education institutions. Learning culture itself is changing from being *systemic*, associated with schools and curricula to being *holistic*, available in and combining many different forms and contexts. Dohmen (1998, p. 14) describes how the accents are shifting:

- from learning that is primarily externally prescribed and ordained to learning that is directed more by learners themselves;
- from orientation to generally valid, scientifically preplanned curricula to development of a wide range of different learning possibilities that can be selected and combined by learners themselves, in accordance with their own needs and prerequisites;
- from learning whose coherence is derived from systematic branches of science to learning whose contexts are developed by learners from their own question, problem and interest contexts;
- from predominantly instruction-oriented to more task-oriented and project-oriented learning;
- from primarily theoretical and verbal learning to more practical and situation-oriented learning;
- from teacher-learner interaction to interaction between learners and problem areas;
- from receptive knowledge storage to active knowledge construction and knowledge renewal;
- from learning that is primarily certificate-oriented and special-qualification-oriented to learning that provides life and problem-solving assistance and that opens up the way to greater behavioural sovereignty and life quality in daily life, work and in the world of media;
- from learning only in specific learning institutions to learning in a great variety of activity contexts and plural learning environments in which schools are only one important, component.

This is the complex background against which the lifelong learning paradigm is currently taking shape. In addition the emphasis in the terms itself has finally rested with 'learning' rather than 'education', another indication of the sift of emphasis towards the learner, i.e. the individual.

4. International policies in the 1990s

The EC White Paper *Teaching and training – towards a learning society*, 1995, introduces three elements into the debate, albeit not totally new – the information society, internationalisation and the scientific and technical world – to which it attributes the cause of current social and economic 'upheaval'. Although since the 1970s, some alternative forms of VET had been introduced, more alternating courses, more technical options in upper secondary education, apprenticeship reforms throughout the early 1990s, the problem of high unemployment was something governments could not overcome in the interim period. The growing long-term unemployment excluded the affected groups almost completely from return to work because the new employment openings were in areas which demanded specific competence which they had not been prepared for. In addi-

tion, they were being 'jettisoned' in favour of the younger generation whose higher qualifications were more vital to economic success. As a solution to this, the white paper proposes provision of broad-base knowledge and maintaining people's employability throughout life, both of which are attainable through lifelong learning strategies.

At the end of the *European year of lifelong learning*, 1996, the Council of the European union published *Council conclusions of 20 December 1996 on a strategy for lifelong learning*. In this document it sets out a framework of suggested areas which it feels need further development in lifelong learning strategies. This framework is used as the basis for Annex 1.

In 1996, 'in adopting the goal of 'lifelong learning for all', the OECD Ministers signalled a major departure from the narrower 1970s concept of recurrent education for adults. The new approach is a true 'cradle to grave' view. It encompasses all purposeful learning activity undertaken with the aim of improving knowledge, skills and competence. It gives weight to building foundations for lifelong learning as well as to remedial second chances for adults. And it recognises that not only the settings of formal education but also the less formal settings the home, the workplace, the community and society at large contribute to learning' (OECD/CERI, 1998, p. 8).

The document also states the OECD's strategy goals for lifelong learning policies:

- strengthening the foundations for learning throughout life;
- promoting better links between learning and work;
- rethinking the roles and responsibilities of partners;
- creating incentives for mobilising investment (OECD, 1996, p. 21).

Coherent policies of LLL incorporate elements of social, cultural, labour market and education policy, and can only be implemented in partnerships involving the state, social partners, business, educational institutions and individuals. At the top level, there is evidence of some movement in this direction, leading to collaboration in the area of education and labour market policies. The OECD Education Ministers' concept received wide acceptance by other ministries, endorsed by Ministers for Labour, Social Affairs and the Ministerial Council of the OECD. Likewise the white paper of the European Commission was a coproduction of DGXXII – Education, Training and Youth and DGV – Employment, Industrial Relations and Social Affairs. The Labour Ministers of the EU have made lifelong learning a key issue in their strategy for employment and it is an important priority of the national employment actions plans (NAPs) drawn up annually by the Member States.

At the EU Council meeting in Cologne, June 1999, the European Commission and the Member States agreed on a common definition of the concept of lifelong learning for the purpose of setting lifelong learning targets: 'all purposeful learning activity, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence'. Commitment to this definition has enormous implications for policy. It brings centre stage the whole issue of recognition and accreditation of prior and informal learning.

5. Situation in selected countries

Looking at country perceptions of lifelong learning, OECD/CERI (1998) found most have adopted the broader 'cradle to grave' view. Nevertheless, many lifelong learning strategies are putting emphasis on filling the gaps in adult education and training, rather than providing a homogeneous new framework, as can be seen from our analysis of selected national strategy papers on lifelong learning in annex 1, which seeks to establish how far they include the recommendations of the Council of the European Union (1997). The UK, Finland and the Netherlands are embarking on an all-embracing strategy and Denmark does include in its 10-point plan (Point 3) that 'the foundation shall be laid so that young people

learn to consider education as a 'recurrent event'. In some of the countries examined, reforms have already taken place within the sphere of initial education and training which are in essence based on the principles of lifelong learning. Norway and Sweden are a good example.

The Scandinavian countries and Japan would appear to have attained a workable lifelong learning strategy, while others are still quite far behind. Hungary (OECD/CERI, 1998) is still using lifelong learning to refer to adult learning only, while, in Italy, new legislation and agreements between the social partners are trying to overcome the absence of a system providing continuing vocational training (CVT) opportunities, in a climate where 'adult learning has low social value and is still seen as a sign of failure rather than development' (Di Francesco, 1998).

There is evidence of convergence in the Member States, the UK merged its departments for education and employment in 1995 and the new Department of Education and Employment, issued the green paper, *The learning age*, in 1998. But things may be moving too fast without enough background research on which to carry out the proposed strategies. It has been followed up with numerous initiatives in the meantime which on the whole makes it difficult to get an overall picture. In Germany, education and training have long been under the Federal Ministry of Education and it now incorporates research and technology, training is very well researched and structured with the Federal Institute of Vocational Training to support it. Nevertheless, Dohmen (1996) feels that many of the fixed structures, controls, rules and regulation in Germany, which have served other forms of education and training well, are hindering rather than helping the realisation of a lifelong learning strategy.

5.1 The case of Sweden

Sweden[2] now has a very integrated education and training system. It is interesting that the reorganisation of VET has moved from being 'basically industry-based to being integrated in the general school system' while in many other countries the emphasis is on increasing the industry base for more work-linked training. However, this pattern has not hampered Sweden's success in promoting lifelong learning. On the contrary, the strong school-based system of *youth education* (which also covers university education) is seen as extremely important in paving the way for lifelong learning (Sohlman, 1998). Upper secondary school offers 16 national programmes, two of these – natural science and social science – focus more on university entry. About 10 weeks of the other more vocational-oriented programmes must be spent out of school, at the workplace. Each programme offers a number of opportunities from which students can choose in the second year.

At secondary level, all post-compulsory programmes, both academic and vocational, have a duration of three years and lead to higher education, if desired. For those who do not go on to university, lifelong learning begins when young people enter the labour market where learning at work begins and there are ample opportunities outside work in adult education. The KY programme for advanced vocational training at post-secondary level is a new two-year programme, closely linked to the employment market. One third of the course-time is spent at the workplace. In addition to vocational knowledge attention is given to maths, science, computer technology, economics, society, culture and language, and to personal and social skills. This KY-programme supports the development of lifelong learning in working life.

Grundtvig's residential colleges for adult education developed in Sweden for the very practical purpose of providing education for farmers and their sons (Lundgren, 1998.). These colleges have progressed and developed their social role over the years and in 1995 they numbered 135 throughout the country, 88 of which were owned by popular movements, etc. 25 000 students studied course there for one semester or more and 175 000 participated in shorter courses. The practical outlook of Grundtvig still prevails in more recent ini-

[2] Data from: Abrahamsson 1999; Sohlman 1998.

tiatives that try to stop the gaps in education and skill needs. Compensatory education for adults is provided for individuals who cannot avail of learning possibilities at or outside of work, usually because of lack of basic education. On 1 July 1997, the government launched the Adult Education Initiative (AEI) as part of its strategy to halve unemployment by the year 2000. AEI, or competence lift, is a five-year programme for the unemployed and those employees who lack either completely or partially three-year upper secondary education. It will also contribute to a positive change in gender distribution of work and to adult education reform, as a whole. The municipalities are responsible for organisation, planning and implementation and can choose course organisers that meet the requirements of the target group as well as local conditions. They network closely with national employment offices and adult education councils, the social partners, etc.

To motivate and attract adults with low educational levels, the municipalities are charged with developing new forms of information and outreach activities, new counselling methods and techniques for assessment and recognition of prior learning. New organisational and pedagogical approaches are being applied as well as new technologies. Some municipalities have created local study centres equipped with the latest ICT facilities. Transition between the different levels and types of school is being made easier. An individual study and action plan has to be established for each individual. A special education grant is available for a maximum of 12 months and is equivalent to unemployment benefit.

They have found in the Swedish VET system that the introduction of new programmes and policies necessitated by rapid changes in the external environment cannot await the results of scientific investigation. 'The solution to this dilemma has been to start new investment projects on a preliminary basis and set up monitoring, reporting and evaluation procedures' (Sohlman, 1998, p.25). This holds for the AEI and KY programmes. The commission for the Adult Education Initiative was appointed by parliament to set the goals for and monitor the initiative. It also assesses the ongoing education and in-service training needs of adults. The monitoring process includes self-evaluation by the schools and municipalities.

The interesting feature of the Swedish policy is that it is 'all embracing', integrating all groups. It also has local cooperation and organisation, it provides a service to the individual, while making the best use of existing resources and funds, i.e. municipalities, schools, employment offices, unemployment benefits, etc.

5.2 The case of Japan

The evidence suggests that economic factors are a strong driving forces behind the development of lifelong learning. In their first phase at least, most strategies promote:

a) investment in the skills of the workplace to increase competitiveness;

b) employability by helping people develop to the full potential, especially the unemployed and other disadvantaged groups to avoid their social exclusion;

c) quality, efficiency and effectiveness in the delivery of and access to State-sponsored interventions.

While most strategies do emphasise to varying degrees, the importance of lifelong learning for citizenship, human wellbeing and the future of society (e.g. Finland), they concentrate on the more materialistic or economic issues.

Japan on the other hand has reached a higher level of development. The formal education system, even if it is accused of being an 'examination hell', has achieved high participation and success rates and provides a highly skilled workforce. A high proportion of this workforce goes on to benefit from continuing training throughout working life, provided through the patronage of the employers. Because of these facts and the strong Japanese tradition of 'improving one's cultural and educational background during one's leisure time' (Dohmen, 1996), the con-

cept of lifelong learning in Japan responds primarily to social change and the 'lifelong learning society':

> 'The need for a lifelong learning society reflects a number of social factors. First, to remedy the harmful effects of Japanese society's preoccupation with academic credentials, we need to create a social environment in which appropriate value is placed on learning achievements at all stages of life, regardless of whether they are accompanied by formal academic credentials. Second, the maturation of Japanese society, as evidenced by rising income levels, expanding leisure time, and the ageing of the population, is reflected in increasing demand for learning activities that contribute to spiritual enrichment and enjoyment of life. Third, people today must constantly acquire new knowledge and skills in order to keep pace with the issues affecting Japan's society and economy, including advances in science and technology, the increasing use of sophisticated information technology, internationalisation, and changes in the industrial structure.' (Monbusho, government White Paper, 1996a, Chapter 2).

The Lifelong Learning Council was established in 1990 to develop a national framework. It produced two reports *Measures to promote lifelong learning in response to social trends*, 1992, and the White Paper *Measures to improve lifelong learning opportunities in the community* (Monbusho, 1996b), which superseded the 1992 report.

Implementation is carried out at prefectural government level and many of the municipalities have drawn up their own lifelong learning promotion plans, conferences and declarations. Information is disseminated through publications such as pamphlets, media including radio and television, databases and networks. Efforts are made to share these databases and networks with organisations providing information in the field of youth culture and women's education. Emphasis is put on developing 'self-education abilities' needed to learn independently and to cope with social change.

Importance is placed on groups learning and on sharing resources with educational institutions. Higher education institutions are developing specialised courses for the general adult public and school sports facilities and classrooms are made available for public access and public lectures, etc. There is also a move to grant credit for out-of-school learning achievements and give appropriate recognition to 'volunteer activities'. This is due in part to the desire by some participants learning in the context of daily life to continue on to more formal learning and also to encourage more mature students into higher education opportunities. 'Lifelong learning' is becoming an everyday term among the Japanese population. The challenge is still how to provide the learning formats which meet people's desire to learn and provide them with the required knowledge and skills in a pleasurable way. The Ministry of Education, Science, Sports and Culture (MESSC) has been promoting the use of multimedia technology through its educational media research, development, and utilisation project. The use of multimedia eases time and distance constraints and should also 'enable the fine tuning of learning activities to suit the characteristics and wishes of individual learners'.

A number of surveys carried out by MESSC, the Prime Minister's Office and research institutes have examined who is learning what and where. The main motives for learning appear to be enjoyment, life enrichment and health, only a minority learn for work-related purposes and these learners were in their forties or under. Adults chose books, magazines, groups, and also cultural centres, and local government lectures and courses are their preferred learning methods. Colleges, universities and upper secondary extension courses didn't account for a high proportion and they tended to be used by the work-related learners. However, a survey by the Ministry of Labour in 1995 suggests that a significant number of people are involved in work-related learning activities but don't recognise them as part of lifelong learning. In 1994, 50.9% of workers underwent 'off-the-job training' and 57.0% 'self-improvement activities'. This compares with 90.5% of workers who in 1992 said they were interested in self-improvement

277

(survey available only in Japanese, quoted in Monbusho, 1996a).

In the context of learning in an 'ageing society', the white paper mentions the need for the entire nation to understand better the social factors behind the rapid ageing process – social insurance and welfare, pensions, health care, etc. It stresses the need to plan and learn about 'the transition from employment to retirement, especially for men'.

Dohmen (1996, p. 73) detects two lifelong learning movements in Japan which are converging. The popular movement 'based on establishing awareness and recognition of informal lifelong learning that takes place in a highly diverse cultural and recreational world... and the moves by government to develop a coherent system for promoting learning opportunities, learning aids, learning centres and support communities throughout the entire country', incorporating everyday learning. It would seem that while most countries are struggling to open up lifelong learning and make it more non-formal, Japan is trying to tie lifelong learning into the formal system.

6. Youth vocational education and training

The OECD/CERI (1998) reports that the youth cohort shrank by around 3% between 1988 and 1998. But countries vary greatly. In Ireland the 18% of the population is aged between 15 and 24 years, this compares with around 12% in Belgium Denmark, Germany, Netherlands, Norway, Sweden and the UK. Despite the declines in the size of the youth cohort and strong growth in sectors that employ young people, the relative employment and earnings position of young people have tended to decline during this same period. Falling participation in employment is explained in part by students staying on longer in education or combining work and study. In most OECD countries, youth employment is highly concentrated in the services sector (OECD/CERI, 1998, p. 49). Services can give opportunities to adaptable youth with computer and language skills, and employers tend to place emphasis on personal qualities, experience and general qualities (ibid.). Therefore young people with a broad general education have excellent chances in services that are still developing vocational qualifications, such as finance, insurance or real estate. Poorly educated youth, on the other hand, risk ending up in declining industries or agriculture, or in neo-Taylorist jobs in the service sector. The ILO (1998) repeats the doubt, expressed previously by the OECD, EU and others, that initial training can suffice for the employment needs of a lifetime. Training systems are concerned about how to develop workforce skills from a lifetime prospective. It is important to get the right formula from the start because lifelong learners tend to be those with greatest educational success in early years (OECD/CERI, 1999).

6.1 Foundation skills

In the new paradigm, there are new demands on initial training. It no longer prepares young people for permanent jobs but rather for 'employability' and adaptability. It should endow them with the ability and skills to adapt to and to move with the changing jobs and working environments that they will encounter throughout their lives. In addition to preparation for a particular activity, the purpose of initial training is now to develop one's ability to 'learn for life', building a range of generic, foundation skills such as learning to learn, self-organisation and self-responsibility, ICT skills, creativity, problem diagnosis and solving, team work and communication, many of which cannot be imparted in the school setting.

Jobs are changing constantly, especially in the services, it is difficult to define an 'occupation' or occupational profile for the purpose of vocational training. It is predicted that 40% of the jobs that will exist in 2010 are not yet known (Longworth, 1999). Jobs are becoming more personalised, based on a collection of functions that may, for example in modern SMEs, include elements of design, production, and marketing. This personalising of work has a number of implications for training. Initial training has to be broad enough to anticipate combinations of functions that might make up an eventual job. There is a

tendency for young people to stay on longer in general academic education to gain a broader basis and the possibility of specialisation at higher education level. In VET, modular systems with strong general, social, information technology and communication skills are becoming the norm. Even in Germany where, traditionally, initial training was firmly built around preparation for a particular 'regulated occupation', there is a move towards introducing modularization as a means of making such training more flexible and allowing for elements from other occupational activity to be added (Steinke et al., 1999; Kloas, 1997).

LifeQual – 'Effective processes for acquisition of qualifications for lifelong learning', a project funded by the *Socrates* programme, is examining research data and studies in order to identify structures, agencies and processes effectively fostering the acquisition of qualifications (in terms of the skills, qualities and attitudes) for lifelong learning. Other *Leonardo* surveys and analyses, like the *Post-16* project and the *INTEQUAL* project looked at the different routes open to young people after the age of 16 and are developing and piloting qualifications with a dual orientation towards employment and continuing education and training in the different partner countries (see separate chapter by Lasonen and Manning).

LifeQual aims to build on and enhance that research by identifying the dynamic processes at play and through developing models of good practice for enhancing the efficiency of the acquisition of qualifications for lifelong learning, to inform policy development at national and international levels. The issues being studied include:

- seeking to open up progression opportunities for vocational routes which are currently blocked in relation to possibilities for access to higher education and continuing education and training;
- the way the lack of a sufficiently well-grounded technical orientation in initial education closes off a range of technical options in the eyes of many young people;
- the value of (prior) work experience to those taking vocationally oriented programmes in further and higher education, whereby the dynamic interaction of experience, reflection and learning provides a basis for continuing professional development;
- the enhanced labour market prospects of those that can offer a higher education qualification together with post-degree practical experience;
- the difficulties experienced by companies in filling posts requiring well-developed intermediate technical skills;
- the need for broad support for models of lifelong learning 'careers', built on interaction between learning for and at work and within and across different sectors of education.

So far, work has been done on the structural aspects of the education system that affect the development of lifelong learning, the relationship between the broad aims of initial vocational training and the facilitation of lifelong learning, and the value of using transferability as a focus for the acquisition of qualifications for lifelong learning

In Europe, four main initial training routes, general academic education, school-based vocational education, apprenticeship and entry to low-skilled employment are still very much in evidence, though there is some convergence taking place. We will look at developments in some of these areas next.

6.2 School-based vocational education

Scandinavian countries have the most integrated systems in Europe and they are continually being developed against a vision of lifelong learning. These countries have had a tradition of integrated education systems stemming from the Grundtvig's principles that promote adult learning in 'out-of-school environments'. In Norway, Finland and Sweden, the latest reforms have introduced a smaller number of broad VET programmes covering wide sectors or clusters of occupa-

279

tions. The purpose of these programmes is to offer all young people, who choose a vocational path through upper secondary school, a broad foundation on which to build their career and also to facilitate horizontal movement to parallel vocational courses or main stream general education. In Norway, for example, the 13 vocational programmes begin with a foundation course that covers an introduction to a number of occupations. In the following year, the student can choose from over 100 more specialised 'advanced courses I' that also contain some general and academic subjects. Then the student can opt for different types of specialisation through *apprenticeship* and spend two years at the workplace, first as a trainee and later contributing to the productive work of the enterprise (this model is known as the 2+2 model); or training for another year at school, *advanced course II*.

Upper secondary schools in Norway are run by county authorities and offer both academic and vocational education. This enables easier transfer between programmes and between academic and vocational streams. Students who take the vocational course in business and general studies obtain entrance qualifications for higher education. Students who have taken other vocational paths can gain access to higher education by taking a *theoretical bridging course*. The system emphasises the development of broad competences to provide a solid basis for continuing training and lifelong learning. The curriculum is based on a common platform, offering strong elements of theory, general subjects and information technologies across all programmes. The curriculum is modular and adults are allowed access to individual or combined modules to complete an upper secondary qualification as external students, as part of their continuing or labour market training.

In Denmark, the number of VET programmes (also affecting apprenticeship) available at entry will be reduced from 83 to seven, in the year 2000. Some schools are practising this policy from August 1999 on an experimental basis. Similarly in the Netherlands, upper secondary vocational education is classified along sector lines. Each sector provides training courses for several industries. These industry-specific training courses lead to pre-defined national qualifications. There are 22 different sectors under the broad headings: technology, economics, services and health care, and agricultural.

Educational institutions must change radically if they are to provide an adequate framework for lifelong learning, remodelling to recreate an open education system. To play an effective role they must change in respect to:

- the needs of the individual for foundation skills such as learning to learn throughout life;
- the flexibility of their provision (with regard to type, time and place);
- their attitude to companies, what goes on there, what they need in the line of specialised training and what they provide in the way of workplace training;
- non-formal learning outside their walls and its recognition; developing certification systems based on 'output' which document 'real' competence; the role of their staff and their competence and know-how;
- the use of ICT (information and communication technology).

This is quite a long list that many traditional institutions would find daunting, and this is one of the weak spots in developing the new roles of the partners in lifelong learning. At the moment the school side would seem to be the weakest link. It has survived for centuries as the 'venerable pillar of society' and now it is being asked to change at a pace never known before. Longworth (1999, p. 25) quotes Bayliss who questions the use of 'tinkering' with a 19th-century philosophy and structure of schooling to meet the needs of the 21st century. Even in Norway, where we have seen that changes have been introduced, Nørstegård (1998, p. 13) is critical of its role. Pressure is being exerted by the 'hidden threat' that, if the 'ordinary education' and 'training institutions' do not change radically the way they serve lifelong learning, an Open University will be established.

6.3 Work-linked pathways

There are a number of reasons put forward why work-linked training, and particularly apprenticeship, provides a suitable preparation for participation in the modern workplace:

- it provides a gradual transition from school to work;
- the contract which is a keystone in apprenticeship provides a ready-made 'partnership' (employer, trainee and training provider). In its more refined and developed form, the apprenticeship system is a platform for social partnership and the national action plans for employment (NAPs) encourages such partnership in Guideline 4;
- researchers believe that it is a practical way of introducing people to 'communities of practice' i.e. a social environment in which socialisation and transfer of tacit skills can take place which are otherwise, very abstract, but essential elements of training which are not easily transmitted in the formal classroom setting. This is important at a time when initial training in general is criticised by employers for not being more relevant to labour market needs;
- work now consists of processes rather than specific tasks and the work-process knowledge that it requires can only be acquired in the workplace. Apprenticeship enables the integration of theory and practice, and of non-formal and formal learning.

The ILO *World employment report 1999*, takes up Ryan's question: is apprenticeship better? (Ryan, 1998), and concludes that although circumstances differ from country to country and youth unemployment is very sensitive to the state of the labour market, apprenticeship does enhance employment prospects for young people and this is attributable to the quality and relevance of the training given. These results are backed up by the findings of the OCED in its *Employment outlook* and *Education policy analysis* (both 1998) pointing out that not only is youth unemployment less in countries with strong apprenticeship traditions, like Germany and Denmark, but transition is also facilitated. This relative success must be seen in the context of their highly regulated labour market system in which an effort is made to balance training places and employment opportunities. It requires strong commitment from the social partners, particularly employers, and governments to agree on the design and implementation of training courses, certificates and wage levels. It involves complex processes which are difficult to change, as can be seen from attempts to modernise the 'dual system' in Germany. (Hannan et al. discuss the impact of institutional and labour market differences in their contribution to this volume). Apprenticeship is, therefore, not readily exportable and adaptable from one country, or from one type of economy to another.

The fact that countries with a strong work-linked element in initial vocational training often experience less problems with youth access to employment is also one of the reasons why the European Union is emphasising this issue in its policies. In June 1996, the Council of the European Union asked the European Commission to undertake a study on the *Role of apprenticeship in enhancing employability and job creation* (Gelderblom, 1997). This study which was undertaken by Netherlands Economic Institute, 1997, defined apprenticeship in a broad sense which included many types of alternating vocational education and training. The report concluded that 'apprenticeship' does have an impact on reducing youth unemployment and does enhance employability[1]. The results of this study were incorporated into the communication from the European Commission, *Promoting apprenticeship training in Europe* (COM(97) 300). As one of five keys to more effective apprenticeship training, it stressed adding a European dimension to apprenticeship training by facilitating mobility of apprentices and recognition of training periods undertaken in other Member States.

The Commission itself acted on these points, given the significance of work-linked train-

[1] This study is treated in some detail in the first European research report (Tessaring 1998, pp. 128-136).

281

ing and the need to develop European mobility. This culminated in the Council's adoption, on 21 December 1998, of a *Decision on the promotion of European pathways for work-linked training, including apprenticeship* (1999/51/EC, OJ L 17, 22.1.1999). This decision established the Europass training, a document to record that 'the holder has completed one or more periods of work-linked training, including apprenticeship, in another Member State'. It remains to be seen if the Council decision can give a new impetus to work-linked training. If extended to national situations, it could be used to initiate a system of work placements between enterprises, which on their own could not provide suitable placements for apprentices and trainees.

6.3.1 Development of varied forms of work-linked training

Apprenticeship is the most structured and more established form of work-linked training, but it is by no means the sole option. It is still deeply rooted in the craft sector and perhaps for this reason, or because they do not have the highly regulated social structures it needs to function well, many countries have devised alternatives based on their existing training traditions and systems. France is perhaps the best example of a mixed system. Alongside apprenticeship (which in France, despite State support and numerous reforms, has a relatively low status and is regarded as a training route mainly for those who have failed or performed poorly in school), it has over the years developed the vocational baccalaureate (*bac pro*) for students in upper secondary school who intend to prepare for employment. The *bac pro* includes 16 to 20 weeks on-the-job training over its two-year duration. Other countries have followed this example, in the UK the *GNVQ*, in Ireland the *applied leaving certificate*. Sweden's 14 vocational-oriented programmes in upper secondary education devote 15% of students' time to *APU* (workplace training), or the Norwegian[1] model. Agreement has been reached in Finland on providing periods of on-the-job training of at least six months for all upper secondary school students. Now the question is how to generate enough places to develop a 'culture' of on-the-job training.

France is the home of alternating systems or 'alternance', some of the many variations include the *contrat d'orientation* (guidance contract) for young people aged 22 and over who do not have a vocational diploma and who have not completed upper secondary, general education; the *contrat de qualification* (qualification contract) is offered to young people under 26 to supplement their initial training by job-related training to give them better possibilities of access to jobs; the *contrat d'adaptation* (adaptation contract) is aimed at young people under 26, to provide training that will help them adapt to a job or type of job. All of these involve a contract between the youth and employer. Such models and others have also been adapted in other countries. In Denmark, *TAMU* is an alternating vocational preparation programme for youth with low attainment and social problems, and the municipalities organise other schemes to combat unemployment, e.g. job-training schemes with public employers. In Portugal the *PAIJVA* is a programme for the integration of young people into working life.

In the UK, *Youth Training*, delivered through a contract, offers a guarantee of up to two years training for young people not in employment (usually) or full-time education from the end of compulsory education to the age of 18. The *New Deal for Young People* (DfEE, 1997) is intended for those aged 18 to 24 who have been unemployed for six months or more and are receiving the jobseekers allowance. Following help with job search and career guidance, those who do not find an unsubsidised job have four options: a subsidised job with an employer; work in the voluntary sector; full-time education and training; work in the environmental task force. Variations of the New Deal have been developed for the long-term unemployed and lone mothers. Upper secondary general education creates strong competition in the UK, and the number of 16 to 19 year olds who leave school in favour of

[1] Norway has been described in Section 6.2 to highlight broad foundation training. It could equally be included here, or in Section 6.3.2 as a variation of apprenticeship. For a more detailed description, see Farstad, 1999.

employment is still quite high. Suggestions have been made by Layard et al. (1995) that all young people under the age of 19, who are in employment, should be employed as 'trainees', with certain obligations on the employer to release them for training.

Urged on by the stipulation in NAPs' Guideline 1 – Tackling youth unemployment – that 'every unemployed young person is offered a new start before reaching six months of unemployment, in the form of training, retraining, work practice, a job or other employability measure', similar initiatives have been developed in other Member States, in France *Trace* – pathways to jobs, and vocational *traineeships* in Belgium, Sweden and Ireland.

Other innovations exist which are practice-oriented but not alternating. In Spain, workshop schools (*escuelas taller*) and training centres (*casas de oficios*) develop practical programmes for under 25s, and the new employment workshops programme (*talleres de empleo*) were created for over 25s. Production is used as an educational instrument to initiate training in the Danish production schools. Likewise Italy has the *contratto de formazione-lavoro*, a work-training contract lasting up to two years, during which all learning takes place at work.

6.3.2 Apprenticeship

Although the OECD estimates that apprenticeship is still losing in popularity and there is an evident drive in some countries to have students complete upper secondary academic education, our impression from the Cedefop updates on apprenticeship systems in the EU (www.trainingvillage.gr/etv/library/apprenticeship/app_main.asp) is that on the whole the numbers continue to rise e.g. in Germany, France, Greece, Ireland, Austria and Finland (see Annex 2). During the four year period 1994-98, the number in France increased by over 100,000. As indicated in the previous research report (Tessaring, 1998, also bmb+f, 1999a), the gradual rise in the young population in Germany has meant an increase in the numbers seeking apprenticeship places. In 1997, there was a reversal of the trend in apprenticeship uptake in the old German *Länder*, 13,200 more training contracts (+2.3%) were concluded in 1997 than in 1996, the first increase in this part of Germany since 1984 (bmb+f, 1999a, Part 1). There will continue to be a slight increase in demand for apprenticeships in the new Federal *Länder* until 2002, and in the old Federal *Länder* until 2007, with an overall rising tendency throughout Germany until 2005 (ibid). Statistics in Austria and Germany are also boosted by the reformed or totally new training regulations (e.g. in ICT and the media) that have attracted additional young people into the dual system, as well. Denmark is experiencing a decline due to dissatisfaction among young people regarding the system and enterprise placements, lack of interest in the 'compensatory practical training' introduced in 1990 because of training place shortages in enterprise and the apprenticeship system's lack of a guaranteed right to completion. Demographic factors are also beginning to account for a drop in student numbers in Denmark.

6.3.3 Progression

However, in countries with a strong apprenticeship tradition the pathways often lead to a cul de sac and there are few, if any, side exits or bridges through which one can reroute one's training itinerary. Even in Germany and Austria where the apprentice can advance to the technician level of mastercraftsman, there is a realisation that the possibilities for progression need to be opened more for apprentices (who comprised 62% of students at upper-secondary level education in Germany in 1998 (bmb+f, 1999a). The efforts of the Standing Conference of Land Ministers of Education and Cultural Affairs (KMK) to address the question of access to higher education for qualified apprentices may help maintain the popularity and attractiveness of apprenticeship. In June 1998, it published two resolutions which enable the gradual progression through vocational education to higher education[3].

[3] See *Vereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen: Beschluss der Kultusministerknoferenz vom 5.6.1998* and *Rahmenvereinbarung über die Berufsoberschule: Beschluss der Kultusministerkonferenz vom 25.11.1976 i.d.F. vom 5.6.1998*, www.kmk.org/beruf/rvbobsch.htm

Austria has also introduced the *Berufsreifeprufung*, a lateral access matriculation qualification for persons who had passed their final apprenticeship examination and for trainees who had completed technical schools including the nursing schools and schools for paramedical services. This vocational qualification is based on the corresponding law (*Berufsreifegesetz 1997*); it is a 'tailor-made' *Matura* certificate which takes the experience and knowledge acquired through prior job experience into account. It is equal in status to the *Matura*, the final examination in upper secondary education, and enables transition to a higher vocational career and access to studies at universities, higher technical colleges, etc.

As we have seen above, bridging also exists in Norway. But exams are not necessarily the best formula, a dual qualification is preferable from the outset, as exists in Sweden. The *Kollegschule* (college school) in North Rhine-Westphalia, Germany, also provides training courses which combine general and vocational education and prepare for an occupation or for higher education studies. It does not have significant numbers of students. In the Netherlands, a progression route for secondary level apprentices to higher education exists in the form of *HBO* (higher professional education) which is a vocational-oriented form of higher education offering a bachelor-level degree. In 1999, some 7,000 students are pursuing this course as a dual programme, like an advanced apprenticeship, and students have a contract (*onderwijs-arbeidscontract*) with an employer and training institution. A separate chapter in this research report is devoted to research on dual qualification routes (see contribution by Lasonen and Manning).

The age-band for apprentices is being extended. Traditionally it was seen as a training path for young people with a practical rather than academic bent. It was often criticised for being too rigid and 'front-end loaded', and for providing no progression prospects, except in those countries where the master-craftsman status was well established. Throughout the 1990s, apprenticeship has undergone reform in most European countries and one of the trends which is emerging is the lifting of the upper age limit for applicants in many countries. Denmark, Finland and Norway have special adult apprenticeship programmes. It is likely to prove a very suitable form of training for adults who identify more with the workforce than the school environment, such as the unemployed or the lower skilled workers who would be reluctant to return to full-time education and training. The situation of adults is also aided by the tendency in many countries to deliver a modular form of apprenticeship. The initiative in Finland tries to reduce the length of the apprenticeship by giving adults credits for their prior learning and work experience. The adult apprenticeship is then tailor-made to the profile of the individual apprentice who can take the modules and practical training necessary to fill his/her skill gaps and acquire an apprenticeship qualification.

In Norway, it is becoming an important means of documenting and recognising informal on-the-job learning. Adult apprentices must have work-experience equivalent to 125% of a normal apprenticeship period, usually five years. They do not pass an examination in general subjects but take the same theoretical and practical final examinations as apprentices. Their informal knowledge is considered to compensate for the general school subjects (languages, mathematics, social studies). The social partners were very opposed to moves to place same general skills requirements on adults, stating that this would kill their motivation to study and deprive them of a chance to obtain formal qualifications. Many enterprises are encouraging their employees to formalise their qualifications via this route, to enable them to supervise apprentices.

7. Continuing vocational training

7.1 Statistical analyses – shortcomings

It has been underlined again and again (e.g. OECD, 1996; European Commission 1995; ILO, 1998) that lifelong learning and employability can only be achieved if enterprises and individuals play their part in developing their own learning. Government strategies can only

help to create the environment in which this takes place and ensure that everyone's welfare is included. Enterprises are investing in learning in their own right. However, current statistics and surveys do not display this involvement in the best light. Attempts have been made by the OECD and Eurostat to collect harmonised data on workforce training. However, the differences in the way initial and continuing vocational training is defined and measured both at national level and in these international data collections makes it difficult to get a comprehensive picture of the situation at EU level. Moreover, they cover only formal courses which are easily measured by questionnaire surveys, etc. They do not, for example, take into consideration the extent of non-formal learning in enterprises that is an inherent part of lifelong learning. Four useful sources are worth a mention: the European labour force survey (which only surveys training over the prior four weeks); the Continuing Vocational Training Survey – CVTS – which last collected data in 1994 (Eurostat, 1997); the adult literacy survey (OECD and Statistics Canada, 1995); and the OECD/INES indicators of education systems. These statistical sources are analysed in detail in the OECD's *Employment outlook 1999*.

Much of the information on trends in levels, rates of participation and volume of continuing training, reported on in *Training for a changing society* (Tessaring 1998), were gleaned from these sources. In the meantime, no updates have become available, apart from the OECD's *Education at a glance*. One has to rely on the diverse national statistics for a more recent picture. Schütze and Istance (1987), had a similar criticism to make of them: 'The kinds of education covered in such surveys depend, among other things, upon the institutional arrangements and availability of information in different countries. Rarely are attempts made to consolidate information on adult education, adults in post-compulsory and higher education, and labour market and on-the-job training. These surveys, therefore, span only a certain range of the learning opportunities that might ideally make up a recurrent education system' (p. 25). The 1995 adult education survey (Blomqvist et al., 1999), in Finland, tried to measure the participation of the Finnish population of working age in education and training, both work-related training and self-development studies. It includes questions on self-directed learning outside the formal education system and perceived benefits, interest and motives.

7.2 Emerging needs for continuing education and training

Over the past decade politicians and organisations have been selling the importance of CVT to enterprises and according to a report from the Danish Ministry of Finance (cited in Bottrup, 1995), many enterprises would appear to have bought the message. The report found that over half a million adults in Denmark participate once or several times a year in public adult education and training for shorter or longer periods of time, and just under half a million participate in private adult education and training. Employees use 24% of their working hours on adult education and CVT and, approximately 48% of the employees participating in CVT have an agreement with their employer, the rest do so on their own initiative. In 1992, approximately 87% of enterprises had employees engaged in vocational training, either public, private or in-house. The total operating and refunding costs for adult education and CVT in Denmark amounted to 2% of GNP (DKK 18 billion).

This depicts quite an impressive amount of commitment, even if there are still great differences in CVT provided by large and small enterprises. Nevertheless, one big problem was recognised in that efforts do not always meet the desired results. Many employees do not get the opportunity to turn the skills learned at courses into competence at work, and enterprises are unaware of what is really needed. This is put down to the fact that there was no cohesion between training and work, the two function separately. Blame rests not only with the enterprise, training institutions too need to get involved at all stages of training. AMU – the adult vocational education and training system – courses are standardised and conducted according to a compendium. Courses are uniform and do not take participants and their backgrounds into

285

consideration. The OVE project, the Danish pillar in the FORCE projects in the manufacturing and transport sectors (carried out by the Danish Technological Institute (DTI) and the Danish Royal School of Education Studies (DEL), with cofinancing from the Ministry of Labour and the National Labour Market Authority) looked exactly at these problems.

The purpose of the OVE project was to involve employees, enterprise management, teachers and training institutes in a collective effort to create a continual learning process and to penetrate the wall between the training institutions and the enterprises. The project endeavoured to bring together two research traditions in two analyses, one on industrial sociology which took the view of the enterprise and examined qualification requirements, focusing on existing work organisation and functions while emphasising throughout the need for broader jobs. The second analysis centred on educational theory and assessed the various teaching methods used in the AMU courses, including considerations regarding differentiation of teaching based on the participants' background and also looking at their learning patterns in the enterprise.

This project has been a milestone in the key skills' debate in Denmark. It concluded that key skills are best acquired 'in context', i.e. in relation to the workplace and not isolated in institutions. It made suggestions as to how individual employees, management, and external trainers could contribute to the necessary interplay between what is learned in and outside the workplace. It made the point that central to developing a continual learning process is to have these actors (who keep their main responsibilities) involved on an ongoing basis in the preparation, training and evaluation/follow-up, to allow easy transition between work and course and course and work respectively. Experiences demonstrated that enterprises and training institutions have to be brought closer together to assume joint responsibility for the 'contents of the entire qualifying process'.

This poses challenges to teachers, training institutions, enterprise management, and not least, to the employees who have to assume responsibility for their own further vocational qualification process. 'The crucial innovation happens when they acknowledge their responsibility regarding follow-up in the enterprise... The follow-up constitutes the actual innovation and strengthening of the effects of the course. The best effects appear when the enterprises have defined the framework for the so-called learning organisation, where the employees are allowed to develop and pass on course experience to the colleagues who did not attend the course' (DTI, 1997, p. 18). This also has implication for the training of teachers and trainers who become quasi-consultants to the enterprise. On the basis of this demonstration project and a series of follow-up pilot projects, the Danish AMU system has embarked on the widespread implementation of such a model for its public system of continuing vocational training. The *integrated delivery of CVT* has been placed on its strategic development agenda.

7.3 Enterprises

Enterprises are responding to the trend towards globalisation and technological innovation and the desire for increased productivity and competitiveness. They would appear to be quicker to take on the challenge of reacting to changing circumstances than educational institutions. Contrary to the predictions of the early 1970s, there is no consensus that 'deskilling' of the workforce has occurred. Many enterprises are turning more intensively to training because of their need to restructure and upgrade the skills of their workforce, due to the increasingly faster turnover of skills and the importance of their renewal time for mastering change. Training for the modern workplace cannot be successfully achieved apart from the enterprise. The enterprise is the melting pot of change and adaptation and it cannot await results of scientific research for advice on how to proceed, it must react immediately. Hence many enterprises are integrating more learning and training into work and becoming involved themselves in higher education and research. It is generally estimated that an increasing number of enterprises are changing their work organisation and are devel-

oping as *learning enterprises or organisations*. The conservative estimate of the CVTS was that they amount to 7 to 8% of enterprises. The ILO (1998) considers the 'learning organisation' to be an ingredient of lifelong employability.

7.3.1 Learning enterprises

In restructuring their *human capital* (labour force), such enterprises often turn towards forms of work-integrated learning as part of their human resources development plan (see also contribution by Dehnbostel and Dybowski, which describes new enterprise learning that promotes self-organised, self-directed learning, thus facilitating personal as well as organisational development). The whole work process replaces the classroom or training centre and the focus is on development rather then training. Work is divided into teams and each team and its members are empowered to take responsibility for their own development and training. Learning takes place through team work and collective learning; job rotation; coaching and mentoring by other colleagues; training workshops; quality circles; information flow through intranet and other forms of communication; exchange programmes with other firms and dealing with customers; and self-directed learning using distance learning aids. Such transformation needs the commitment of management and workers. Unions are also finding a new role as promoters of lifelong learning and the right of all workers to training and development.

Many theories of human resource development originate in the USA and Japan and are not yet at home in European enterprise culture. Within the framework of the European Commission, DG Research (ex. DGXII), programme on Targeted Socio-Economic Research (TSER), a project entitled, *The role of HRD within organisations in creating opportunities for life-long learning: concepts and practices in seven European countries*, is seeking to clarify the specific European outlook on the role which HRD in learning-oriented organisations can fulfil in lifelong learning. It hopes to identify differences between HRD concepts and practices in European organisations and those that exist in the USA and Japan. The outcome of the research should contribute to the discussion on a European model of and infrastructure for lifelong learning.

For many intermediary and skilled workers, pathways through career and lifelong learning usually went via the workplace. At work, they picked up the skills they needed (with some measure of on-the-job training) to progress to supervisory and foreman positions and eventually production managers. Such career paths and traditional forms of work-based lifelong learning are now threatened a) by the flattening and restructuring of internal company hierarchies and b) by competition from 'side entrants' recruited by employers because of their management skills and high qualifications, including higher education graduates. '*New career paths and lifelong learning- CALL*' is a Leonardo da Vinci funded research project that is investigating this dilemma in the mechanical engineering and chemical industries in Germany, France and Great Britain.

The project is examining current company policy on recruitment and acquisition of specialist production-managers, in an attempt to understand the consequences of staff replacement policies, and the possibilities offered both to the company and to the employees by new forms of work and new career and learning patterns. Through company studies in each country, it will identify the problems which ensue for both parties, and identify innovative solutions which, while supporting the substitution of traditional managers, would offer them methods of acquiring new qualifications through work process learning and new career patterns. Working with the social partners to find new bridging processes which give an alternative to both the strictly career progression and side entry patterns will be given due importance. It will identify elements of 'good practice' that can be transferred to any country. The quality of 'good practice' will be judged on its role in implementing new forms of work organisation while at the same time strengthening the esteem in which vocational training in held.

Participants at the Cedefop *Agora II*[6] (1998a) felt that, left entirely to the employer, there is a tendency to specialise which hinders outward mobility, since the experience of workers becomes too restricted. The success of the creaming off process in innovative, flexible companies was blamed for the creation of neo-Taylorist companies. By rationalising their companies, they retain and promote their better qualified staff who are most adaptable to new forms of work organisation caused by moves to lean production or just-in-time supply of goods, etc. Many of the lesser skilled employees are displaced to small companies, some of which are created to do the more routine work that the main company is casting off. But in these new 'Taylorist-type' companies they have little or no opportunities for development. Too much specialisation leads to 'monopolisation' and 'retention'. The employees cannot use their skills outside the company and become 'dependent', and in fact, vulnerable because they are not being kept 'employable' should anything happen to the company in which they work or, if their task is eliminated. This situation is serious given the OECD's jobs study prediction that those now entering work can expect six or more job changes in their working life (OECD, 1994).

7.3.2 Small and medium-sized enterprises

The problems of SMEs in freeing employees for external training, or providing them with well-rounded in-house training, are well documented (Gil et al. 1994; Cedefop 1998a). Cedefop's Agora II (1998) concluded that small enterprises are reasonably happy with on-the-job training, whereas they are reluctant to shoulder the cost of other training and it is unusual for them to review and plan in the light of long-term requirements. Other Cedefop research on microenterprises in the printing, retail and car repair sectors confirmed that most training was received in the form of 'incidental' or non-formal learning. Furthermore, the disadvantage of those without any initial training was evident. In non-formal learning situations, those with initial training are more capable of taking their own initiative on updating their skills and competencies, while the less qualified are dependent on the support of others. In the car repairs sector, for example, the trained mechanics learn from:

- solving problems themselves;
- regular rotation of tasks;
- direct employee participation;
- complaints from customers;
- doing work with a growing degree of difficulty.

The untrained mechanics rely more on asking their supervisor for help or observing an experienced colleague and the knowledge they gain is restricted compared to what the trained mechanic gains from non-formal learning. This shows that to benefit from continuing training, adequate initial training is a sine qua non.

DELOS – developing learning organisation model in SME clusters – was a transnational project financed under the TSER. It explored how local 'clusters' or networks could be used to the benefit of SMEs. It examined over 300 SMEs, their existing networking behaviour and the type of organisational learning that went on there, to elaborate guiding principles aimed at enhancing the role played by clusters in developing training and employment support for SMEs. Its recommendations ranged from using training and labour market observatories, currently being developed by the EU, to capture and analyse data on the strengths and weaknesses of clusters, to exploiting local chambers of commerce to provide informal information gathering support to local clusters, or to act as the 'hub' of a European accreditation system for providing on-line assessment and accreditation to SMEs.

7.4 Networks

Traditionally, we have the example of local enterprise that was the centre of the community. Towns and villages were character-

[6] *The Cedefop Agora*, with three seminars annually, provides a forum for VET researchers, social partners and policy-makers to come together and exchange views and improve mutual awareness. Agora II on *the role of the company in lifelong learning* was held in November 1997.

ised by their local factory or industry and life revolved around them, not only for work but also for social activity and social standing in the community. Japanese enterprises still have this role, as do enterprises such as, Volvo, VW or Skoda, around which whole towns survive. It is important that the enterprise collaborates as part of a community network, in order to achieve the infrastructure that is needed in the learning society. Today, the role of the enterprise in lifelong learning can only be elaborated in cooperation with outside agencies, both public and private. Networking should be part of any enterprise's strategy to get to know what resources are available locally, to contribute to developing these resources and to share them, for example, through inter-company training. SMEs in particular need the support of a local network.

Such networks might also provide guidance and counselling. Lifelong learning has to be accompanied by lifelong guidance. Not all enterprises have the expertise or the capacity to provide this type of service, and it is of most value when considered in the local context, in relation to local employment prospects, etc. A review of their work on guidance to-date, by Cedefop and the European Foundation for the Improvement of Living and Working Conditions (Chiousse and Werquin, 1999), found that because training no longer focuses primarily on young people, the need for vocational guidance and counselling also recurs throughout working life. It points to the fact that counselling should be provided on a more individual scale that analyses needs and demands case by case, for the employed as well as the unemployed. This is interesting in relation to non-formal learning because, even if an accreditation system is put in place, guidance will be needed to indicate where individuals have gaps in their skills and to steer them in the direction of suitable supplementary training.

With the support of the Further Education Funding Council, Further Education Development Agency, Association of Colleges, Association of Principals of Colleges, TEC National Council and the Local Government Association for the *National Partnership Protocol*, lifelong learning partnerships (renamed learning partnerships) are being established throughout England. The collaborative aims of these partnerships are to:

- raise educational and training standards;
- improve the quality of provision;
- increase choice and enhance the quality of guidance;
- improve cost effectiveness;
- enhance access to local provision and widen participation;
- encourage coherence of local planning; and
- avoid wasteful duplication of provision.

7.5 Decentralisation

Trends towards 'individualisation' and 'pluralisation', the breakdown of traditional bonds and dissolution of standardised structures and generally valid orders, to the benefit of equally valid but different paths, forms, systems and options, limit the possibilities for general planning and regulations. (Dohmen, 1998). This is also true in VET. It is more difficult to have a comprehensive system that covers everyone's needs. At EU level we see this in the emergence of the subsidiarity principle. At national level, there is more decentralisation and deregulation of responsibilities and decision-making to local level. We see examples in many countries of the regions having a key role in VET, France, Spain, Italy, and The Netherlands. In countries where lifelong learning has taken root, decentralisation is also an important feature, e.g. the municipalities' role in adult education in Sweden or the village movement project in Finland.

The notion of the learning city was first introduced by OECD in the 1980s. The idea has been developing in Europe through the efforts of ELLI – European Lifelong Learning initiative. ELLI has initiated a number of pilot projects which are receiving funding under the Socrates and Leonardo da Vinci programmes. Longworth (1999) gives many examples of how cities, towns and regions are becoming learning communities. He admits that contrary to his and Davies prediction in 1996 that universities would take the leading role in learning communities, this role is being filled by business and industry. He feels

289

that the success of lifelong learning is based on 'thinking globally and acting locally'. He describes initiatives in cities such as Edinburgh and Göteborg to improve the employability of unemployed workers and employees at risk of redundancy. These were based on transmitting the message of lifelong learning rather than specific skills. Such 'flagship' projects, he says, must become the norm. The learning cities and communities are also supporting social and cultural aspects of lifelong learning that have not been covered here. One of their greatest assets is promoting social cohesion in the community, to which the above examples also contribute.

8. Higher education

Eurydice and the European Commission (1999) underline that the 'massification' of higher education has been evident in educational policies for several decades because of the political will to ensure that the greatest possible number of citizens obtain qualifications consistent with the increased demands of the workplace and become successfully integrated into society. Hand in hand with this has gone the principle of 'equal access to higher education' which is the rationale underlying the establishment of financial support for higher education in all EU Member States. However, 'massification' of higher education and State support have not sufficiently improved the 'social mobility' expected. Indicators relating to the social origin of students reveal that their participation is clearly conditioned by the level of qualification of their parents (Eurydice and European Commission, 1999).

Participation in upper secondary school is predicted to rise from 60% in 1995 to 73% in 2015 and people in this category are 32% to 38% more likely to participate in adult education and training (OECD/Statistics Canada, 1997). Potentially these people will be eligible for higher education. Though not all will seek access to university or higher level colleges, demand for adult learning at tertiary level will increase substantially in the coming years, as will the demand for access to more varied and flexible forms of education and training. Kintzer (1997, p. 1) says the 'interchange of credits, courses and articulation services between secondary-level schools and post-secondary colleges and universities directly and positively enhance opportunities for lifelong learning'. In Europe, the idea of credit transfer has taken root in higher education but not so far in other forms of education and training, apart from the Europass training initiative. Higher education graduates may also need more training to upgrade their skills in areas affected by the spread of technologies (Acemoglu and Pischke, 1999).

'As economies increasingly come to accept and believe in the economic benefits of a lifelong learning culture, policies must be developed and implemented that support institutions which have been demonstrably most able to support the phenomena. That is the biggest challenge facing politicians and policy makers' (Kintzer, 1997, p. 11). As institutions of this calibre, he identifies the 'short-cycle colleges' which provide a link between 'lower' and 'higher' education, both academic and vocational. These colleges of non-university higher education have their parallel in Europe in the 'polytechnics', 'Fachhochschulen', 'community colleges', 'regional colleges', 'institutes of technology', 'further education colleges' and the like. They form the ideal pivot for organising 'articulation', i.e. 'the totality of processes and relationships involved in the systemic movements of students vertically and laterally throughout formal and informal education systems' (p. 1). Their merits lie in their flexibility and the linkages they provide for lifelong learning. The persuasive factors which Kintzer cites include:

- emphasis on vocational education and work preparation as well as continuing training;
- flexibility of curriculum development under practitioners who often spend a percentage of their time employed in industry;
- courses location and planning more in tune with adult needs;

- a flattened administrative structure more suited to rapid decision-making and less costly to operate for the public authorities.

The lifelong learning strategies in France and the UK also emphasise the key role of short flexible courses at this level.

As universities are the seats of much scientific research, it is not surprising that there are quite a number of research projects currently running under EU programmes which examine aspects of the role of higher education, particularly universities in facilitating lifelong learning. There are many aspects to this question. The universities themselves, in their traditional form, are a barrier to lifelong learning because of their limited access and offer of: learning possibilities, ability to exploit and respond to developing ICT, methods of accreditation and credit transfer, cooperation with industry and the local community. *'Lifelong learning: the implications for the university in the EU'* is a TSER project which has recently started to analyse the implications that lifelong learning is seen to have on traditional power structures and traditional forms of knowledge within universities. National empirical data will be used to see how universities are transforming and reforming their educational goals and strategies. Various partnerships of the universities with social agents and how their involvement in market relations is progressing will be assessed.

But the signs are that universities are rising to the challenge of becoming institutions of lifelong learning. The driving force of knowledge is coming from ICT and the world of work. Companies are looking for people who can learn. In return adults are becoming more demanding and expect courses which are relevant to their work. More students, particularly post-graduate students are part-time. The enormous impact of the UK's Open University has set a trend in this respect. Universities are also meeting with competition in the form of corporate universities, such as the British Aerospace Virtual University. Although they are rare in Europe, over 1000 exist in the USA. A greater proportion of university teaching is becoming post-graduate and vocationally oriented. There is greater emphasis on higher degrees with a work-based learning format which can be studied part-time, or at a distance. Traditionally research was full-time. Universities are adapting slowly to the needs of PhD students. It is becoming accepted that many theses are practice-based. Many participants have there own case studies related to their work and some of it is funded by employers. Jarvis (1999) feels that it makes a lot of sense to have doctoral research happening at the workplace, given that the process of transferring knowledge to practice needs to be speeded up.

Virtual campuses are growing in Europe, encouraged by the Erasmus programme, and telematics-based learning opportunities which have been made possible in recent years. Such developments create tensions in the organisation and functioning of traditional education organisations and create new demands and challenges for the teaching staff. A TSER project 'Implementation of virtual environments in training and education' started in October 1998. It is investigating the implementation of virtual learning environments (VLE) in post-secondary public educational institutions, as well as training institutions. Three empirical studies are being undertaken on: the teaching and learning approaches in VLEs, especially those combining face-to-face and distance learning methods; cross-cultural and academic dimensions in European diversity, including curriculum; and institutional and organisational factors in fostering innovation in public educational institutions and training companies through the implementation of VLE.

9. Non-formal learning – recognition and accreditation

Examinations have value as a record of achievement at one point in time, particularly at the end of school or university, etc. But in most cases, they begin to lose their currency as soon as the individual enters employment and starts to acquire new skills, particularly in informal settings at the workplace. This acquisition of knowledge is rarely given due consideration and ways of assessing it are only in their infancy.

It has been established that non-formal learning constitutes an important part of continuing training in companies, particularly micro-enterprises as seen above. This being the case, then there should be some mechanism for accreditation whereby this type of learning can be assessed for the purpose of promotion. Indeed, it could prove useful for those engaging in human resource accounting, as a means to evaluate intangible assets, i.e. what an enterprise's human capital is worth in terms of skills and competence not visible on CVs or formal certificates. This is useful to the enterprise is terms of promoting itself to investors and future employees but also to employees when seeking promotion or employment in another firm. It could be interpreted as a way of collecting 'intangible' data on human resources.

Furthermore McKenzie and Wurzburg (1998) recognise the benefits of a mechanism for assessing and recognising the learning that occurs outside formal learning institutions for the lower skilled to validate the experience they acquire through experience and self-directed learning on and off the job. This is also relevant for young people in transition to work who want to demonstrate the experience they have accumulated in the form of placement or odd jobs. The Cedefop *Agora II* (1998a) concluded that as consumers, employers should be the best judges of competencies and abilities and should therefore have an important role in certification. However, standardisation is necessary to assure quality, especially if an employee intends to move on from his/her present company, or continue independent self-directed learning. The use of networks might be a useful contribution, as suggested by the DELOS project (see above).

The Cedefop project on the accreditation and recognition of non-formal learning has been documenting the ways in which the EU Member States are dealing with this problem. The UK's system of National Vocational Qualification (NVQ) and the French *bilan de competence*, for example, are pioneering models of assessment of prior and non-formal learning. The UK model has been successfully marketed throughout Asia and South Africa. More recently, the Finnish competence-based qualification system, established in 1994, defines work-based, non-formal learning as an essential part of vocational education and training. It aims to strengthen the integration of workplace learning in the traditional Finnish system. The assessment is based on a portfolio and is closely linked to 'national guidelines' which describe the competence requirements for each trade/occupation. In 1998, 10 000 candidates passed through the system. In the chapter in this report on non-formal learning, Bjornavald gives a comprehensive overview of the situation in the Member States and Norway.

10. Educators

As we have seen above, the general pattern in lifelong learning is to build its foundation on school education. Whilst most strategies highlight the diversity of learning sites and situations, it was UNESCO's committee report, *Learning: the treasure within* (1996), which stood by the 'irreplaceable' nature of institutional learning. In this case, the role of the teacher or educator becomes paramount. We have also mentioned that the school or educational institution is seen as a weak link in the network of lifelong learning partners. One reason for this is the neglect of teachers that has been evident for some time. The OECD study (1990), *The teacher today*, detected that teachers in vocational education and training and also in higher and adult education tend to be much neglected, compared with issues such as curriculum development and accreditation, etc. OECD is continuing its research on these matters in the project *Schooling for tomorrow* that, in the meantime, has produced new findings exploited in the chapter on 'Teachers for tomorrow's schools', in *Educational policy analysis* 1998 (OECD, 1998).

'Just as committed educators fought in the past to make the school a freer place, with room for divergent and non-conformist ideas and opinions, so now they must join forces with all those involved everywhere in educational activities to develop new centres of creativity and non-conformism, in companies and in schools, in community centres and in the

popular associations set up for cultural and other purposes'. These words of Gelpi (1992, p. 332) still ring true of the situation today, and as he goes on to say, education is often out of touch with the 'popular culture of experience' and 'swift and efficient international communication seems to be confined to technology, financial activities and commercial culture'. Today, the learning society is being facilitated as much by the world of ICT as by education.

Although it should not be exaggerated, there is a tendency towards ageing of the teacher population. A high proportion of teachers are in their 50s, but this varies widely, from 40% in Sweden to 13 % in Austria. The majority of teachers in-service in 1998 were likely to have been trained before 1980 (OECD/CERI, 1998). As in most occupations at the time, initial teacher training usually followed Taylorist-type specialisation. In the modern school, teachers are now being asked to participate in the school as a learning organisation, including more teamwork, broader functions, administrative tasks, etc. Although in-service training of teachers is widespread (Eurydice, 1995), it does not provide the type of professional development these changes require. In the view of OECD/CERI (1998), 'how far schools are able to transform to become oriented towards lifelong learning will hinge to a large extent on the contribution of teachers'(p. 26) [...] 'teachers have to become competent at transmitting a range of high-level skills including motivation to learn, creativity and co-operation, rather than placing too high a premium on information recall or performance tests. They themselves have to have the ability to learn from and teach other teachers. Such skills, as well as their old skills will combine in the new professionalism' (p. 38).

This new professionalism was the subject of the Leonardo da Vinci funded project, '*Europrof*', which sought to combine research-based analysis of existing structures and patterns of initial and continuing training of vocational education and training (VET) professionals with developmental work on curriculum planning and development. It found evidence of a convergence between the role of the VET professional, i.e. the instructional activities required to promote the attainment of vocational learning and expertise, and the human resources development (HRD) professional who organises continuing development of competence in the workplace. New forms of education for both VET and HRD professionals need to be organised 'on the basis of a new system of didactics, which recognises the relationship between technology, education, training and work' (Brown ed., 1997, p. 115). The new occupational profiles for VET and HRD professionals will be multidimensional, bridging vocational and pedagogic skills. Their education should be based on broad occupational fields and should focus on work process knowledge and key qualifications in order to enable them to transfer learning and competence both within an occupational family and associated fields. Europrof concluded that these new programmes of study, new occupational profiles and related research provide the basis for 'VET pedagogy' as an independent area of study at university level (Brown ed., 1997).

The role of the workplace supervisor or tutor is changing to one in which initiation and supervision are decreasing, and management and organisation of teams, defining tasks and developing the potential of colleagues in the team are increasing. The Leonardo '*Transnational pilot project: master/supervisor in lean production*' aims to contribute to the qualifications of this group and adapt the qualifications and curricula to new production concepts and develop modular curricula, incorporating new communication and work organisation methods. Longworth (1999) talks of the teacher (trainer, tutor) role becoming that of a 'learning counsellor'. The 'learning counsellor' would coach and facilitate the learner in any learning site, be it school, work, or other. The European Roundtable of Industrialists recommend learning counsellors in large companies and universities.

Guile and Young (1996, cit. in Brown, 1997) argue that work-based learning in its current forms is disconnected from theoretical training with the result that practitioners are not encouraged to connect theory and practice. They propose a 'connective model' in which

293

theory provides the concepts for analysing the problems that arise for professionals in their place of work, i.e. for developing and improving practice, and theoretical learning is enhanced by locating and understanding problems and finding solutions. They have applied this model to the initial and continuing training of VET professionals (but equally for post-16-year old youth), which is why Brown (1997) puts it forward as part of the debate about a European curriculum development framework for VET professionals, within the framework of Europrof. He also examined a post-graduate programme (certificate/diploma/masters) in further and higher education, which has been running at the University of Ulster's School of Education since 1989. It is based on a connective model combining theoretical and practical skills and knowledge, and strong links between the institutions involved. College tutors are heavily involved in assessment and employers' representatives are involved in a wide range of training and support roles, as well as in course committees and exam boards.

The view persists that there is a clear 'gap' between research-based degrees and masters programmes, which support professional expertise. The introduction of practitioner doctorates is one attempt to support and develop expertise in practice thus filling this 'gap'. These are available at Ulster and Nottingham Trent universities.

11. Disadvantaged groups

The Dutch strategy sees 'people as managers of their own employability' (Ministry of Education, NL, 1998). To do this they must be lifelong learners with ability to learn and the necessary tools and access. Currently, however, lifelong learning is a rather elitist area. Lifelong learners tend to be those with greatest educational success in early years (OECD/CERI, 1999). The ILO (1998) reports that lifelong learning is likely to be mainly available to advantaged workers already in the labour force. Women tend to be treated unequally to access because they are more likely to spend time out of the labour market, which in fact means that they are thus in even greater need of training. The CVTS shows that 28% of all employees in the EUR 12 had access to CVT in 1993 (Tessaring, 1998; European Commission, 1999). The OECD's *Education at a glance* (1996) indicates higher participation for certain countries and it gives a breakdown by educational attainment which illustrates that the more-educated people are also the more likely to receives CVT. The tendency for those with a good basis to receive more training is reflected in the number of managerial and supervisory staff participating compared to lower categories. Again it is the higher skilled staff who benefit from new competence development programmes devised in the framework of restructuring, experiences such as job-rotation and teamwork, etc. Likewise, higher level employees are more likely to take part in formal courses outside of work, while lower skilled engage mainly in in-formal learning. Research shows that direct influence of factors like social class is declining, but their impact is increasingly operating via their influence on access to, and success in, education (OECD/CERI, 1998). (See also relevant chapters in the first research report [Tessaring, 1998] and the background report [Cedefop 1998b]).

11.1 Educational dropouts and the young unemployed

The education participation rate in OECD countries has been rising in recent years. This is in part due to governments trying to raise their achievement targets but also because of parental pressure and aspirations for their children. Yet, on average around one quarter[7] of young people leave school without completing their upper-secondary education (Durand-Drouhin et al., 1998; OECD/CERI, 1998, p. 5). Because of the higher skill requirements and greater competition for jobs (also from older workers and the unemployed), these young people who leave school with compulsory schooling only are deemed early school-

[7] This average is based on OECD figures for the following countries: Australia, Canada, Czech Republic, Denmark, France, Ireland, Korea, Poland, Spain, Sweden, Turkey, United Kingdom, United States.

leavers and have problems finding employment. Early school leavers have the double disadvantage of having no qualification and no experience. They spend more time finding their first job, and are more likely to end up with poor quality, temporary or part-time work. They are more likely to fall into the trap of casual seasonal work in the hospitality or tourism sectors. Young women are even more vulnerable than young men over the next five years, if they spend the first year after school unemployed.

In its national report for the OECD on alternative approaches to financing lifelong learning, the Netherlands set a target rate of 85-90% for those who should attain a 'starting qualification', i.e. a level 2 diploma (HAVO/VWO or MBO/apprenticeship) and not 100%, 'because international agreement exists about the fact that approximately 10 to 15% of each year-cohort does not possess the abilities necessary to complete upper secondary education' (Baaijens et al., 1998, p, 47).

Getting a job early matters especially in preventing the social exclusion of those with low attainment. However, most countries, instead of finding a mechanism to continue their learning and build up the basic skills which they lack when searching for employment, allows this group to leave the education system and then set up schemes retrospectively to give them some remedial training. Examples of this are *Youthreach* in Ireland, and *the New Deal* in Britain. The EU's NAPs have given impetus to the efforts to combat unemployment and social exclusion, e.g. the Danish job-training schemes with public employers, and extension of the *programmas de garantia social* (vocational integration programmes) for young people, 16 to 21 years, who have not achieved minimum compulsory education qualifications, in Spain. Funds are being channelled from the structural Funds to encourage and assist the development of employment-training programmes with a strong workplace learning element, for youth out of employment for six months and for the long-term unemployed. Nevertheless, the shortage of jobs still remains a big problem in many Member States, and while such programmes can prepare these people for reentry to the labour market and encourage them to develop their own lifelong learning and employability, they do not create jobs. Their motivation and efforts will quickly lapse, if they return to unemployment. The other side of the coin is that some countries will soon experience labour shortages and they will be doubly penalised, if young people are not given the necessary training and skills to take up some of the vacant jobs.

11.2 Unemployed adults and low-skilled workers

The 'decompartmentalising', i.e. building bridges and providing flexibility between initial and continuing training is particularly important given the rising VET targets, upper secondary education becoming a minimum entry point to the labour market (OECD, 1997). Many of the adults in the labour market have a standard of education way below this level. 'The number of poorly qualified adults is equal to half the school population or more' (ibid.). Annex 3 gives an overview of the percentages of adults, between 25 and 64, who have not completed upper-secondary education. Recent legislation in Norway makes provision for such groups to obtain paid leave to recoup firstly on lower secondary education, and progress thereafter to upper secondary qualifications, for which no financial arrangements have yet been agreed. The raising of their educational attainment levels could lead to more of an equitable situation with regard to continuing vocational training, from which currently the more highly educated profit most. Publication of further results of the *adult literacy survey* (OECD / Statistics Canada, 1997) have increased awareness of the need to boost the basic education of the working population, as well as their work-related skills. This is evident from the national strategies analysed in Annex 1.

Layard et al. (1995) feel that it is the 'job of the state to enhance peoples' general skills – those skills that will enhance their productivity wherever they work'. It is justified as a good investment for society, which will save later on unemployment benefits that would otherwise have to be paid. Those who lack educational qualifications are a major preoc-

cupation of policy makers. Mass unemployment is before them if they cannot update their competence more quickly than the labour market eliminates or exports their low-skilled jobs. The success of lifelong learning strategies depends on them being 'affordable' to all the stakeholders. But an equilibrium has yet to be found. There is wide consensus that governments should carry the cost of providing access to training for disadvantaged groups. There is a general reluctance on the part of the enterprises to contribute in the form of placements that would give them access to workplace knowledge and skills. Denmark has come up will a novel idea, 'job-rotation' (extended to most other countries with ESF support, through the EU job-rotation network under the Adapt programme) which gives the chance of paid leave to some employees who are replaced in their jobs by unemployed people, who in turn receive a period of on-the-job training. In Denmark the initial scheme led to full-time employment for three out of four participants. But now that many of the unemployed are back in work, the long-term unemployed who are next in line for placements, and it is more difficult to get enterprises interested.

Paid leave and job rotation in Europe – a model for fighting unemployment is a Leonardo pilot project which started in 1997 to extend the Danish model to Austria and the Netherlands. Schemes like these must also become a constant feature of local networking, if suitable work-related learning opportunities are to be provided for the unemployed.

A group less disadvantaged, but in danger of becoming so, are the low-skilled workers in enterprises who will be the first to lose their jobs in times of restructuring and rationalisation. Enterprises act only with a plan for retraining and outplacement to replace redundant workers following pressure from government or bargaining with trade unions. Under present conditions lifelong training by employers is only offered to the employed. There is a need for a broader social partner policy aimed at developing all human resources whatever their status, including the less qualified and the unemployed. There is an obvious role in this for the trade unions. Collective bargaining between the social partners is now covering the lifelong learning debate. New issues are on the table, such as, the inclusion of a training component into normal working time. A figure of 10% has been suggested in Norway. As we have seen above, in relation to Denmark, in practice this is a conservative figure.

A person's survival in the modern information society depends on continual educational opportunities at work, as well as broad initial training. Therefore, workers should negotiate on matters of work organisation, knowledge renewal and training. At a time when the unions' role is waning, they have a major role to play in negotiating workers' right to training. This is also an important issue for part-time workers and those with no fixed contracts. The participants at the Cedefop Agora II saw the right to continuing training as a possible solution to the unpredictability of the employment situation. 'In the absence of contracts of employment for life and a reduction in the number of fixed-term contracts, in the absence of an actual right to work or contract of employment including a clause on maintaining 'employability', recognition of the right to lifelong training is a worker's only guarantee of retaining his job or finding another, giving him and his dependants security for life'. (Cedefop, 1998a, p. 78)

11.3 Older workers

The situation of older workers is similar to that of the less well educated, their participation in CVT is less than average. Annex 4 shows the pattern of participation in education and training over the lifespan, which depicts a decline that accelerates after 50. In western Europe, the allocation of redundancy payments, early retirement and invalidity pensions, as well as unemployment, helped to reduce the numbers of older workers in the workforce. The decline is most pronounced among men. The participation rate for men aged 55 to 59 is under 70% in Austria, Finland, France, Italy, and the Netherlands. In the age group 60 to 64, participation rates are below 40% in Austria, Finland, France, Germany, Hungary, Italy, the Netherlands, and

Poland (ILO, 1998). But the latest statistics from Finland, from the *Adult education survey 1995*, show that older-worker participation in employer-sponsored training compares favourably to that of 18 to 24 years olds, 51% of 55 to 64 year olds compared with 33% of 18 to 24 year olds (Blomqvist et al., 1999). This suggests that employers are beginning to realise the value of older workers' experience for the enterprise. Finland is of course a country where the problem of the ageing population is being experienced. A committee was set up to study the employment prospects for older workers and its report (*Ageing in working life*, Komiteamientintö, 1996) held that, generally the low level of basic education among ageing workers is a threat to their retaining a position in working life.

Most European countries, especially Scandinavia, will be faced with the problem of the ageing population in the next 10 years, including an ageing workforce with less young people coming into the labour market. This is aggravated by the tendency for young people to enter later into working life and early retirement trends among the over-55s. A Leonardo da Vinci project entitled '*Over 45: causes of dismissal and the role of lifelong learning*' finished in 1998. The project focused on good practices in continuing training and especially lifelong learning as part of a strategy to prevent social exclusion among older workers and to respond to workforce ageing. The case studies examined three companies in four countries, Sweden, Finland, Italy and Spain. They highlight the strong commitment to the lifelong learning principle in Scandinavia, the lack of any strategy in Italy and reforms in Spain which are currently concentrating on coordinating national training routes sponsored by the Ministries of Education and Employment and the development of a common qualification system. Despite the differences of approach to training, 'good' practice was nevertheless found to thrive in all countries. The choice of countries was also interesting from the point of view of exclusion of older workers and ageing patterns of the workforce. All countries (despite persisting high unemployment rates in the two southern countries studied) have reached an awareness of the need to redress their policies of early retirement and invalidity pensions, introduced to deal with low employment levels in the 1980s and to make room for the younger generations. It also highlighted the role of the trade unions in motivating older workers to train.

12. Information and communication technologies

Gelpi (1992) reminds us that while new technologies and science have the possibility of making working life and leisure better for everyone, paradoxically, they contribute to new forms of exclusion. He quotes Tanguy (1983) 'scientific knowledge as such is the same for skilled workers and managers alike, its distribution follows a process of exclusion, separation and reification determined by the realities of social hierarchy'. It was therefore important that OECD (1996) added two important words 'for all' to its maxim, 'lifelong learning for all'. Information and communication technology (ICT) offers the potential to the population at large to learn what, how, when and where they like and, at less cost (especially in light of internet developments). The Open University was an overwhelming success because it offered courses through media which were available to the majority (mail, radio and television). Computer-based media are now taking over this role. There is a danger that this development introduces a new element of exclusion because not all people have access to computers, specially not those in most need of learning[8]. However, it is estimated that 70% of people in the UK will have digital TV in 10 years, with an integrated personal computer (Stuart, 1999).

In the context of continuing training, not all workers will want to learn in formal settings due to negative experiences at school, thus preferring to learn at home or at work. For some motivation may be a big problem. Spurred on by the success of the Open University in the UK, the establishment of the

[8] Wain feels that for internet to have the same effect on education as it has had on researchers and scientists, 'there needs to be an enormous jump in accessibility and affordability'.

University of Industry is an attempt to make available distance training possibilities and training material to this target group.

In studies and policies to date, the emphasis is on the availability of hardware and software in schools and less on the capacity of the teacher to use these appliances and guide his/her students in their use, so that they enhance learning. This is reflected in the strategies analysed in Annex I. The Council of the EU listed 'teacher training in the use and application of multi-media tools' as an area of lifelong learning that needs attention, however, only the Netherlands and Finland earmarked it as an explicit area for action in their strategy. There has been a feeling that ICT could replace the teacher in the classroom and teacher may have been wary of ICT as a result. This is a gross misconception. ICT is, however, accelerating the change in the role of the teacher in the classroom, from one of information provider to one of facilitator of learning, both inside and removed from the classroom. At *CAL99*[9] – *Virtuality in education – What are the future educational contexts?*, University of London, 29 to 31 March 1999, the radical effect of the combination of multimedia and electronic networks on the learner and the teacher was the main theme.

One of the most important results that have emerged at this event concerned learning patterns using virtual courses, particularly internet. Even in a very electronically literate society like the US, the dropout rates from virtual courses are extremely high (only about 37% completion rates at Vanderbilt University). Three factors appear to have the most predominant effect on completion: the time frame given, problems using and accessing technology (even among skilled users), and feedback on work versus more personalised attention. Many of the participants were slow on take-up because they first of all had to suss out the group which often meant wasting valuable time at the beginning (exchanging photos and e-mail messages, etc.), to get to know the other virtual students. More importantly, most presentations underlined that the teacher/facilitator is busier than ever when involved in such courses, if they are properly run. A key to solving the problems is to have the teacher put more planning into the course and distributing more information prior to the start of the course and giving supportive, individualised feedback to participants. This by no means reduces the role of the teacher. A presentation from the Universities of Sheffield and New South Wales highlighted a supporting role for librarians in helping learners develop their information management skills.

One of the keynote presentations, from Australia, showed how ICT-based project work can cut across the traditional subject-based curriculum, allowing a student to learn elements, for example, of English, geography and science using one ICT-package. Such developments are highly relevant to what we said above about the provision of broader, more general skills in initial vocational education.

13. Financing

In Member States generally, there is a problem when it comes to adequate company participation in training, though in the long run, companies have the most to gain in terms of skilled and competent workers. But there is much evidence that 'learning organisations' in particular, realise the value of training and are ready to pay to keep their companies competitive. Since the 1960s, Becker's theory has been widely accepted that given good labour market conditions, employers will only invest in company-specific skills and not in marketable skills that can be used by the employee elsewhere, i.e. general training. However, employees themselves might pay for it by taking lower wages during training but if they cannot, then training provision falls below the optimum. During periods of economic depression, their participation becomes even more precarious. Economists such as Acemoglu and Pischke (see OECD, 1999) are questioning this theory and provide evidence of employers who do provide general training. Furthermore the borderline between general and specific training is blurring.

[9] *CAL is an annual conference on computer-assisted learning. Abstracts of CAL99 are available at: http://www.elsevier.nl:80/homepage/sag/cal99/*

Adult lifelong learning is supported in a number of ways. The hypothesis is that company-specific training be financed by the company. The employee is trained during working time or is financed by the employer to do independent study outside of working time. State supported allowances for training leave exist on a small scale. This is most common in France where the individual's right to training leave is guaranteed by the Labour Code. The State helps finance up to 70% of applications. Kallen (1996) feels that one reason why lifelong learning policy has not developed up to now is because legislation on paid educational leave exists in few countries and it has been made conditional on 'professional training.' Favourable tax incentives for the company are a usual way of encouraging companies to train in most countries. It is a widely used practice for companies taking on apprentices or trainees. Training levies are placed on companies in France (= 0.20% of wage bill) and also in Denmark and Ireland. Levies are seen as an incentive for companies to invest in training themselves rather than to poach workers (see also contribution by Green, Hodgson, Spours and Sakamoto in this report).

Good practice exists at the level of social partners in the Netherlands and Denmark, where they have agreed new funding models. The Netherlands introduced training, research and development funds (O+O) to create a solid basis for training in the various sectors. O+O funds are based on sectoral collective agreements, which are preceded by negotiations between the employers and employees and last usually for two years. They generally include arrangements for educational leave and may have special arrangements for specific target groups, such as women, lower educated employees and migrants. O+O funds are managed by the employer and employee organisations. They are financed through a levy on the gross wage bill of the firms according to sector. Contributions vary from 0.1% to 0.6% (Romijn, 1999). In Denmark, in addition to the levy, collective employer fund (AER), which finances work placements for students in initial training, adult and continuing training and education is financed through the 'activation fund'. This is one of three funds, which receive income from the 8% extracted from Danish employees' gross income before various tax-deductibles are subtracted. Persons receiving social subsidies do not contribute (Eggert Hansen, 1999).

Individuals do not directly finance much of their own training, so far. However, new schemes involving loans and tax relief are being experimented with. Layard et al. (1995) talks about the 'outrageous discrimination' in Britain against subdegree VET and part-time degrees which have to be paid for by the participants, while people who take full-time degrees have their fees paid. This bias towards providing grants and loans for academic higher education, and young people, only, is also an obstacle to mobility between university and colleges providing VET, and to the development of combinations of learning and work. Since Layard was writing fees have been introduced in England and Wales, subject to means tests, but the principle of free admission to higher education is upheld in Germany, Greece, Ireland and Austria, and the Nordic countries.

While most countries refer to the funding of lifelong learning, the UK green paper (DfEE, 1998) refers to *investment in learning*. The UK government has also been innovative in piloting new schemes to fund education and training. Career development loans have been introduced to help those who wish to avail of job-related training but can't afford to pay for it. It covers a wide range of vocational courses, lasting up to two years, plus a year's practical experience where it is part of the course. Successful applicants can borrow up to GBP 8,000 to cover 80% of course fees (100% for the unemployed), plus the full costs of books, materials and other expenses like childcare. Repayment of the loan does not start until a month after the course finishes – or up to a maximum of 18 months for the unemployed, those employed and getting certain in-work benefits, or a continuing trainee. Since it was introduced in 1998, EUR 417 million have been loaned to 95,000 applicants.

Also in the UK, efforts are also being made to extend the type of shared investment, common in apprenticeships and traineeships to

anyone who wants to learn and is willing to invest in it. Individual learning accounts or special bank accounts are being set up to help individuals plan and pay for learning. For 1 million starter accounts, the government is paying in a contribution of GBP 150 for each individual in the first year of the account, subject to a small contribution from the individual. Employees will not be subject to tax or national insurance contributions on an employer's contributions to a learning account for eligible learning, as long as the employer extends the facility to the lowest paid employees in the company on a similar basis. Employers (who are being encouraged to contribute to their employees' ILAs) will receive tax deductions on their contributions, as for other employee training costs.

While changes will be necessary in public expenditure on education and training, private investment from enterprises, NGOs and individuals are needed to meet the ambitious lifelong learning targets, such as those suggested by the OCED (1996). In March 1999, a new project funded by the TSER programme began, involving eight countries. '*Further training funds as an impulse for new models of lifelong learning: Integrated funding concepts*' aims to develop new concepts of funding based on existing patterns of funding in companies and sectors which would be extended and oriented to both permanent staff and the unemployed. It will draw up guidelines, (a) for organisations (which should provide not only for their own employees but also for the unemployed and, through the concept of substitution, develop new ideas and models that combine employment, training and ongoing qualification) and, (b) for regional and national networks and decision makers who should combine employment and educational policies to conform to 'integrated funding concepts'.

New models of sharing costs are necessary in view of the tremendous costs incurred in meeting targets, such as those recommended by the OECD (Green et al., 1998), which range from upper secondary education for 90% of 18 year olds and university education for 35% of 30 year olds to retraining programmes for 100% of long-term unemployed adults. Even where there is a willingness to achieve such targets, the deficit to be made up is often quite large. This can be observed in the national reports to the OECD on financing lifelong learning.

14. The paradigm change

To our question has the paradigm really changed, the answer must be, yes. It has changed in so far as, 10 years ago we were still looking at isolated elements, such as adult education or continuing vocational training, and today many countries are taking a more holistic approach to the whole area of education and training. In countries like Germany the debate is still carried out on three tiers (education, vocational pedagogy and adult education), rather than collectively. However, if we take the UK, the Director-General for Employment and Lifelong Learning, Nick Stuart, sums up the change: 'Five years ago even, there was no idea of widely inclusive lifelong learning. We tended to think of different elements of post-school learning in distinct boxes, that were separate from each other. Now I feel we really are at the beginning of a Learning Age, in which those different elements are seen as linked coherently together, and people are ready to act in ways that draw on the advantages of collaboration.' (Stuart, 1999).

Organisations and individuals are confronted on a daily basis with the need to adapt to change. They are also aware that this means acquiring new knowledge and skills to cope. There is therefore a greater urgency to learn which cannot be ignored. Another notable difference now, in the late 1990s, is that enterprises are emerging as a driving force behind lifelong learning. The Confederation of Finnish Industry and Employers has published its own strategy paper entitled *The never ending joy of learning* (1997), while the Confederation of British Industry proposes a new curriculum based on core skills for the new millennium. Another contribution in this volume that looks at globalisation and its effects on labour, restructuring, and training needs in the company is critical of estimations as to how widespread organisational restructuring

in response to globalisation actually is. However, given the speed with which, for example, e-mail and internet have infiltrated the workplace in the past five years, it is very likely that other effects of technological development and globalisation are also making their mark.

Lifelong learning must succeed, if we are to sustain our present society, life-style and prosperity into the 21st century. But people like Giddens (1998) and Petrella (1999) have warned us to be cautious about accepting change unquestioningly. Tobias (1999) says we should stop thinking and planning to meet the needs of industry for highly qualified workforce and challenge these assumptions and policies. Many humanists would argue that lifelong learning has become monopolised by labour market policy and in this way it is slimmed down to a mechanism for renewing workers' skills throughout their working life and maintaining 'employability', in keeping with human capital theory, thus making it difficult to reconcile with its function in attaining social cohesion. Maybe they have a point. Kallen (1996) thinks that this shift is inevitable, considering the change in the political climate and the evolution of the 'present-day efficiency-oriented no-nonsense market economies.'

Reviewing the situation in 1987, Schütze et al. (1987) found that no country had a 'recurrent education system' (i.e. a strategy for lifelong learning). The situation has improved somewhat. A lifelong learning culture is emerging out of renewed interest in Grundvig's philosophy, in Scandinavia. In contrast to the 1970s, reforms this time around have many facets and are not just confined to the formal school system. All the main partners, education and training institutions, employers, trade unions and individuals are conscious of the social and economic changes taking place around them and realise that they must react. Nørstegård (1998) thinks that lifelong learning will work this time because, 'even without government backing, enterprises and individuals are taking their own steps in this direction'.

'Operationalization of a modern lifelong learning concept is a long-term education policy task' (Dohmen, 1996, p. 99). It has to be achieved in two stages. For the generation still in school, the foundations must be laid before they leave formal education and they must emerge as lifelong learners with the motivation and incentive to direct their own learning for the rest of their lives. With regard to adults, remedial measures must continue to encourage those of them who have stopped to rediscover learning in order to assure their own future, at work and in the learning society. Some actions are being taken at the level of education institutions to provide initial education and training with greater breadth and skills relevant to modern work and society. For individuals coping with change and the breakdown of social values, it is important to have some stability and continuity. The workplace provides this, as long as employment remains stable. The individual him/herself is also the basis for continuity and hence individual needs have to be catered for.

15. Where more research is needed

Specific research that deals with the issues of implementing lifelong learning is missing. Most of the national strategies are relatively young and still evolving, so this is not unusual. However, before the next research reports in this series is due, it would be worthwhile attempting to investigate how lifelong learning strategies are being implemented and, if they are having the desired results.

Many of the issues discussed in our various chapters above are the subject of research in their own right, but not in relation to lifelong learning. What is needed is to take research, as well as learning, out of these 'distinct boxes' described by Stuart and to coordinate it better. Over the past few years, Cedefop has been attempting to get this process going by accompanying various EU projects to stimulate exchange and transparency between them.

More investigation is required to establish the extent of restructuring and learning enterprises, themes which are dominating current literature in the field, and to determine just how widespread human resources develop-

301

ment really is in enterprises, and how it can best be carried over to SMEs.

Surveys carried out by the Norwegian committee to draw up the document *New competence* (NOU, 1997) clearly demonstrated that 'employees get the greater benefit from further training schemes that are structured or implemented in such a way that they are linked to their company or enterprise... Giving employees the opportunity of acquiring a theoretical and conceptual background knowledge in the context of their work has a clear advantage. This does not mean that all schooling per se has to happen in or focus on the workplace but it does means that parts of the "cohesive whole" can take place in the workplace or home' (Nørstegård, 1998). However, knowledge of this equation is limited and more research should be done on how best to organise and link the parts, as well as on the learning processes in the workplace.

Research is working on the deficits in the field of training for VET and HRD professionals but, still not enough. While national strategies are listing in-service training of teachers as a priority, the situation in schools is still far removed from the philosophy of the 'learning counsellor'. The OECD's *Education policy analysis* (1998) pointed to a lack of research on motivation to learn, informal learning and learning in older age, all of which are crucial to lifelong learning. Gray (1999) while elaborating on the new potential of the web for lifelong learning says we still have to learn about the technology-based distance support needed to accompany such tools, and more research is urgently needed in this area, as demonstrated also at CAL99.

16. Conclusions

A new concept is taking shape based on a belief that lifelong learning is as much about providing young people with foundations skills, as about recurrent learning for adults. Responsibilities are based on realisation of partnership between governments, employers, trade unions, communities and individuals. The partners have still to reach the stage of fulfilling their roles adequately. Governments are still subcontracting part of the supply to the unemployed and disadvantaged groups to providers who are interested in making profit rather then passing on adequate skills where needed. This criticism was made at the conference, *Competence for Europe*, Berlin, from 21 to 23 April 1999 (bmb+f, 1999b). To date, companies are not adequately involved in providing learning possibilities for these groups. The total extent of employer commitment is not known but it is, so far, mainly visible in 'learning enterprises' which have undergone structural change. Trade unions are still finding their feet in their new capacity as promoters of workers' learning.

Accessibility of learning opportunities is perhaps the most well researched part of the lifelong learning. As a result training is becoming more flexible in terms of time, locations and format (open and distance learning, computer-assisted courses, modular curricula, work-based learning). There is acceptance that it must be affordable to all but, that targets being set in response to OECD recommendations and NAP guidelines are a new financial burden which cannot be met entirely by the state and there is no consensus on how it should be divided. It is essential to the success of lifelong learning strategies that there are no financial barriers for those whose need is greatest. This condition is currently not being promoted.

More and more, training is being related to work. This can be seen as a motivation to adults who are eager to learn when they see that it has some relevance to their daily lives (van Riezen, 1996). OECD and UNESCO place emphasis on the teachers and trainers in ensuring quality of education. Accreditation of prior and non-formal learning is developing as a means of admission to education and training for the less qualified, and as a validation and recognition of skills and competence achieved independently by individuals in general. It can therefore act as a motivation to become a lifelong learner and facilitate progression to further education and training. ICT, and particularly the internet, are opening up a whole new world of possibilities, giving a new meaning to local networks which can link up to anywhere on the globe.

17. Annexes

Annex 1
Council conclusions 1996 – areas recommended of lifelong learning for development

	Points covered in national strategies*						
	DK	F	IRL	NL	SF	UK	N
Challenge to school system							
1. Efforts to combat illiteracy and improve communication skills			x	x	x	x	
2. Promote success at school				x	x		
3. School reform/improvement curricular and administrative	x	x		x	x		
4. Provision of quality, guidance and counselling		x	x	x	x	x	
5. Promotion of school in the community (both as educational resources and in partnerships)							
Economic and social consideration							
7. Specific measures for the long-term unemployed, including early school leavers	x	x		x		x	
8. More transition within school and from school to training opportunities				x			
9. Providing initial training programme focused on needs of contemporary life	x	x		x	x	x	x
10. Active partnership education, training and working life	x	x		x	x	x	
11. Role of workplace as a learning environment		x		x	x	x	x
Local community development through education and training							
12. Learning in informal settings		x	x		x	x	x
13. Construction of pathways from non-formal education to formal		x					
Continuing education and training							
14. Social partnership		x		x		x	
15. Human resources strategies in the workplace						x	
16. Encourage investment			xx		x		
17. Role of the HE to cater for adults and working life	x		x			x	x
18. Creating paths between work and education	x						
19. General adult education to enhance personal development and possibility of employment	x						x
Pathways and links between general and vocational education							
20. Closer relationship between general and vocational education and training of all types	x						
21. Active involvement of student in the learning process				x		x	
22. More work experience and possibilities for its accreditation		x			x		x

Council conclusions 1996 – areas recommended of lifelong learning for development (cont.)

	Points covered in national strategies*						
Access, certification, teaching personnel	DK	F	IRL	NL	SF	UK	N
23. More flexible instruments for certification and accreditation	x	x		x	x	x	
24. Ways of accrediting prior learning and experience		x		x	x		x
25. Access to higher education						x	x
26. Wide dissemination of information on training opportunities	x	x			x	x	x
27. High quality initial, in-service and retraining for teachers and trainers	x			x	x		
28. Distinctiveness of the role of the adult educator	x		x				
Role of new technologies							
29. Flexible access and delivery using technologies and distance education	x	x	x	x	x	x	x
30. Availability and use multimedia tools in educational institutions			x	x	x	x	x
31. Teacher training in the use of application of multimedia tools				x	x		

*This table was drawn up on the basis of the following national strategy documents:

1. 10-point programme on recurrent education, Copenhagen: Danish Ministry of Education, 1995.

2. La formation professionnelle: Diagnostics, défis et enjeux, Paris: Secrétariat d'État aux droits des femmes et à la formation professionnelle, 1999.

3. *Adult education in an era of lifelong learning, Green paper on adult education*, Dublin: Department of Education and Science, 1998.

4. *Lifelong learning: The Dutch initiative*, Zoetermeer, Ministry of Education, Culture and Science, 1998.

5. *The joy of learning: a national strategy for lifelong learning*, Helsinki, Ministry of Education, 1997.

6. *The learning age: a renaissance for a new Britain*, Green Paper, London, DfEE, 1998.

7. *New competence: the basis for a total policy for continuing education and training for adults.* (NOU 1997:25 – Abridged version), Oslo: Ministry of Education, Research and Church Affairs, 1997.

The table gives an impression of where the emphasis rests in the countries studied. However, it should be interpreted in light of other developments and reforms in these countries. Denmark is introducing broader vocational programmes from 2000, the UK published its *Excellence in schools*, DfEE, 1997, and *Learning to succeed*, 1999. Since 1996, Norway has made great strides in implementing its Reform 94 at upper-secondary school level. In Ireland, a separate white paper, *Human resource development* (1997), was launched by the Department of Enterprise and Employment, which does not point towards a very integrated approach to lifelong learning. The Council recommendations are summarised and pre-school is omitted.

Annex 2 Overall apprenticeship statistics in the Member States 1986, 1996-97

Country	1986	1996	1997
Belgium	14,592 7,199 7,393	14,538 total 9,273 Flanders 5,265 Wallonia	– 5,476 Wallonia
Denmark	45,120	38,500 new entrants	31,494 new entrants[1]
Germany	1,805,000 696,000 new entrants	1,590,000 579,000 new entrants	1,622,000 587,000 new entrants
Greece	-	5,500	6,800
Spain	-	184,577	156,151
France	214,000	295,828	312,828
Ireland	4,849 new entrants	6,317 new entrants	7,506 new entrants
Italy	523,053	413,892	393,138
Luxembourg	1,675	2,083	2,190
The Netherlands	97,246	110,459	114,973
Austria	- 169,921 (1985)	119,932 37,079 new entrants	121,629 40,175 new entrants
Portugal	1,395	13,124	6,419[2]
Finland[3]	< 8,000	26,255	36,289
Sweden	-		150 currently in pilot projects
The United Kingdom[4]	318,000	28,000	82,000
Norway	20,992 (1990)	25,836 17,588 new entrants	30,268 16,045 new entrants
Totals	3,223,843	2,874,841	2,929,311

NB: Unless otherwise stated, the statistics refer to the combined numbers of apprentices in all stages of apprenticeship.

1) Marked decrease due to the reform of commercial training which came into force in 1996, allowing students to opt for an extra year in school before practical training.
2) Statistics from the IEFP employment centres are missing.
3) Refers to the number of places allotted annually, the actual number of apprentices may be higher.
4) These data refer to modern apprenticeships only, there were 183,000 in traditional apprenticeship in 1995.

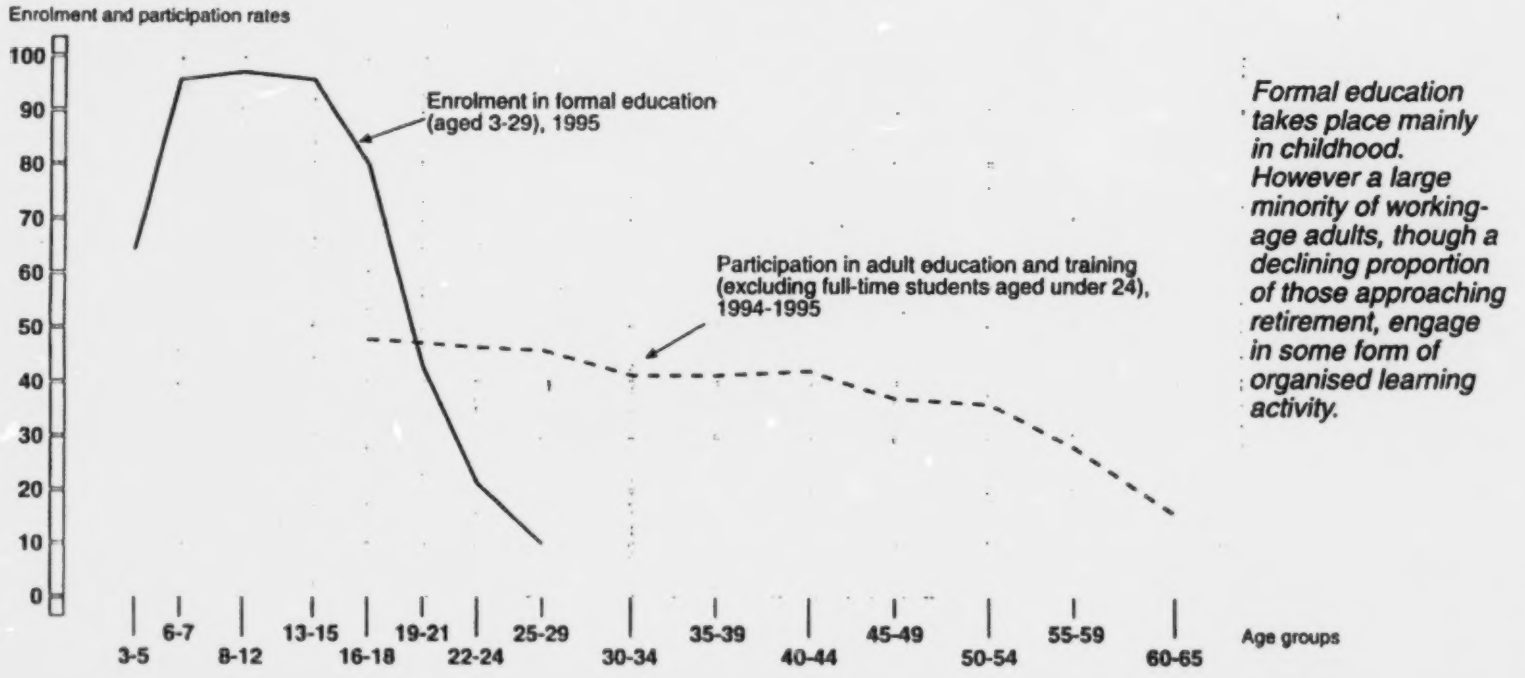
Source: Ní Cheallaigh, 1999.

Annex 3 Adults not completing upper-secondary education, 1994
% of population in given age-group

Age group	25-34	35-44	45-54	55-64
North America				
Canada	18	21	30	47
United States	14	11	15	24
Australasia				
Australia	46	46	53	59
New Zealand	38	40	44	55
European Union				
Austria	21	28	36	52
Belgium	35	46	57	72
Denmark	32	38	41	54
Finland	18	28	44	66
France	16	27	40	59
Germany	10	12	16	28
Greece	38	50	65	74
Ireland	39	53	65	73
Italy	53	59	74	86
The Netherlands	31	36	46	56
Portugal	70	78	85	92
Spain	55	71	84	91
Sweden	15	22	31	48
United Kingdom	14	22	31	43
Other OECD Countries				
Czech Republic	13	21	32	49
Norway	11	15	22	37
Switzerland	11	16	21	27
Turkey	76	80	84	90
Average	**31**	**37**	**46**	**58**

Source: The OECD Observer, No 209, December 1997/January 1998, p. 15.

Figure 1.1
Participation in education and training over the life-span
Percentage of age cohort enrolled in formal education (age 3 to 29), and participation in adult education and training (age 16 to 65), unweighted mean, for nine countries*, 1994-1995



Formal education takes place mainly in childhood. However a large minority of working-age adults, though a declining proportion of those approaching retirement, engage in some form of organised learning activity.

*Belgium, Canada, Ireland, Netherlands, New Zealand, Sweden, Switzerland (French and German for IALS), United Kingdom, United States.
Sources: OECD Education Database and International Adult Literacy Survey.
Data for Figure 1.1; page 74

Annex 5

Projects funded by EU programmes referred to in the report

Title of project:

Paid leave and job rotation in Europe – a model for battling unemployment and improving service quality

Coordinator:
The Danish Confederation of Municipal Employees – DKK, Project Manager: Torben Møller, Hanne Sandager, E-mail: tm@dkk.dk, hs@dkk.dk

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Unison – observer
Bill (William) McMillan
E-mail: w.mcmillan@unison.org.uk

Timetable:
1 January 1997 to 31 December 1999.

Short description:
The Danish job-rotation system has enjoyed considerable success. When an employee takes training leave, an unemployed person can replace him or her and thereby acquire job experience. In 1995, for example, 80,435 workers took training leave. Around 70% of the positions made vacant were filled by unemployed people. The job-rotation model can be used in an European context. The purpose of this project is therefore to introduce trial schemes in the participating countries, involving 25 to 30 people in each area. The target group is 'service assistants', or people who care for the elderly in their homes. In the preparatory phase of the project, the partners will acquire an insight into the labour market structure of the participating countries. All partners at national level will develop and test the model to suit their own particular circumstances. After the trial schemes have been implemented, a conference will be organised to review the results and to draw up a final report.

Impact: The results are expected to contribute substantially to the development of both national and community labour market and vocational training policies. The project can also be seen as a breakthrough in the development of lifelong learning in Europe.

EU programme funding the research:
Leonardo da Vinci

Website:
http://www.dkk.dk/english/documents/index.htm

***Source*:** DKK web page

Title of project:

'LifeQual' – Effective processes for acquisition of qualifications for lifelong learning

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Université Louis Pasteur
Strasbourg, France

University of Tampere
Department of Education
Tampere, Finland

Timetable:
1998-2000

Short description:

- to analyse research data and studies at European, national and regional level in order to identify and specify structures and agencies efficiently fostering the acquisition of qualifications for lifelong learning;
- to search for and specify particular examples of 'good practice';
- to develop a framework for the acquisition of qualifications for lifelong learning;
- to draw up recommendations for policy and decision makers at European, national and regional levels;
- to develop and implement a dissemination strategy so as to increase awareness among VET practitioners of innovative developments fostering lifelong learning through vocational education and training.

EU programme funding the research:
Socrates

Website:
http://www.itb.uni-bremen.de/projekte/lifelqual/lifeqial3.html

***Source*:** University of Bremen web page

Title of project:

Lifelong learning: the implications for universities in the EU

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Timetable:
1 November 1998-31 October 2000.

Short description:
This project investigates how the universities in the EU respond to the concept and practice of lifelong learning (LLL) and analyses

the structural and functional implications which the application of LLL is bound to have for the universities.

The study is primarily qualitative and involves 28 universities from seven European countries (France, Germany, Greece, Norway, Spain, Sweden, UK).

EU programme funding the research:
TSER

Website:
http://www.panteion.gr/kekmokop

***Source*:** Mr N. Kokosalakis

Title of project:

The role of human resource development (HRD) within organisations in creating opportunities for lifelong learning: concepts and practices in seven European countries

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European Consortium for the Learning Organisation
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Belgium

Timetable:
1 December 1997 – 31 December 1999.

Short description:
The research is concerned with how HRD departments in learning oriented organisations throughout Europe envision their own role in stimulating and supporting employees to learn continuously, as a part of everyday work (with the intent to contribute to organisational learning, and thus to enhance organisational competitiveness).

An attempt will be made to show differences in outlook between HRD concepts and practices in European organisations and those which exists in the US and Japan.

The research will go into strategies adopted by European HRD departments to realise their envisioned new role. Consequently the research will analyse the facilitative factors as well as the difficulties (the inhibiting as well as conducive factors) they encounter during the implementation process.

To provide practical guidelines, the research aims to analyse how practitioners cope with these (inhibiting and conducive) factors.

EU programme funding the research:
TSER

Website:
http://www.cordis.lu/tser/src/ct972026.htm

***Source*:** Cordis web page

Title of project:

Further training funds as an impulse for new models of lifelong learning: integrated funding concepts (IFC)

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Timetable:
1 March 1999 – 30 June 2000

Short description:
❑ Aim
The IFC aims towards integrating existing patterns of funding with forms of lifelong learning to develop new concepts. These must be custom-made to suit the individual needs of the companies in the selected sectors and must also be oriented towards the concept of ongoing training both for permanent staff and for the unemployed.

❑ Background
Certain European countries have been utilising sector specific funding for many years to update skills. These funds are furnished by the social partners and can therefore be widely implemented. Up until now, however, only a limited number of unemployed skilled workers have been able to avail of the training opportunities.

Work sectors and organisations without funding also realise the importance of continual training for employees to keep in step with the ongoing technological and social changes in working life. They too must offer their staff opportunities for further training to remain, or indeed become, competitive.

Due to the present rate of unemployment in Europe neither the funding trustees nor the agencies organising further qualification projects can afford to target their measures solely towards the permanent staff of their affiliated companies. On the contrary, they must also involve the unemployed and through the concept of substitutions develop new ideas and models combining employment, training and ongoing qualification.

❑ Results
The presentation of new concepts and drawing up guidelines for further strategies – not only for the organisations directly involved, but also for regional and national networks, organisations and decision-makers who must combine employment and educational policies to conform with 'integrated funding concepts'.

EU programme funding the research:
TSER

Website:
N/A

***Source*:** Mr Heger

Title of project:
CALL – New career paths and lifelong learning

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Timetable:
1997-99

Short description:
Europe has a particular problem with the recruiting and qualification of production managers. In particular the breaking up of internal company hierarchies, which reduce traditional access to management positions, question the efficacy of traditional forms of lifelong learning in favour of a 'side entry' of highly qualified entrants to the profession. At the same time new jobs must be found for those who cannot keep their managerial positions, reinforcing firms 'social responsibility'.

The project first analyses, in the fields of mechanical engineering and the chemical industry, new methods of personnel recruitment and of acquiring specialist and social management skills for production managers. Here it will be particularly important to determine the background and consequences of replacement by 'side entrants.' Secondly, innovative methods of acquiring new qualifications, integrated into the work process and the career pattern will be investigated for those managers who lose their leading position in production. Important to these are 'bridging learning processes', which to a considerable extent are based on learning in the workplace and in the work process. The identification of the argument that argues for keeping the traditional ascent and against the generalisation of side entry, strengthens the relative attractiveness of vocational training as compared to university education, as it keeps promotion paths open for vocationally qualified specialist employees.

Impact: The results of the investigation should improve the quality and innovation of existing national vocational training systems and strengthen the esteem in which vocational training is held. In addition it should provide information on socially responsible methods of reducing hierarchical structures in companies and so ease economic and social change.

EU programme funding the research:
Leonardo da Vinci

Website:
http://homepages.muenchen.org/bm752233/projekte/leonardo.htm#top

***Source*:** ISF website

Title of project:

Europrof (New forms of education of professionals in vocational education and training)

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Timetable:
1995-97

Short description:

1. The project is based on the idea of anthropocentric production – on the idea that workers should be given the skills and the autonomy to shape and control technology in the production process and to design and control work organisations. These skills are called shaping skills. One of the key roles for the new VET and HRD professional is to facilitate the development of these new skills.

2. The project aims to develop social innovation. Innovation is seen as being based on the skills of the workforce, on work process knowledge and on new forms of work organisation.

3. The project is based on ideas of social inclusion – that everyone has the right to education and opportunities for learning vocational skills and that the application of skills for social innovation is central to generating employment opportunities and reducing unemployment.

4. Since VET is seen to play such a central role in the promotion of social innovation it is important that VET becomes recognised as a discipline in itself.

5. The project aims to professionalise VET professionals – in other words to raise the status and skills of the occupation. Therefore we believe that we need to develop university based education programmes.

6. The project seeks to develop a new occupational profile for VET and HRD professionals. That profile will necessarily be multifaceted based on the breakdown of the traditional divide between vocational teachers and human resource development professionals and the integration of initial and continuing education and organisational learning within the concept of lifelong learning.

7. The project stresses the importance of work related process knowledge and the application of knowledge and skill in promoting sustainable innovation. The project aims at a new curriculum for VET and HRD professionals that combines pedagogy with technical and vocational knowledge and work based skills.

8. Methodology: the project seeks to identify common research questions leading to transnational development tasks. The project adopts an action research approach bringing together research and developmental traditions.

Publication: *Promoting vocational education and training: European perspectives*, Brown, A. ed. (1997). Tampere: Tampere yliopiston (Ammattikasvatussarja 17)

EU programme funding the research:
Leonardo da Vinci

Website:
http://www.itb.uni-bremen.de/projekte/europrof/default.htm

***Source*:** University of Bremen

Title of project:

Implementation of virtual environments in training and education

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Timetable:
1998-2000

Short description:
Taking advantage of the new information and communication systems, many different ex-

periences are emerging where traditional public institutions and training organisations are moving towards new ways of open and distance education. Participants in what are currently called 'virtual campuses' are now experiencing new ways of teaching and learning. This new scenario arises tensions in the organisation and functioning of both public and private institutions. On the other hand, the new ways of telematics-based learning crosses geographical borders, challenging E&T systems all around Europe, and posing new questions to European cultural diversity. The central objective of this project is to investigate the issues involved in the implementation of virtual learning environments (VLE) in post-secondary public educational institutions, as well as in training institutions. The project will focus particularly on looking for a holistic view when tackling the main issues mentioned. Within this context, the key objectives of the project are: to map out the teaching and learning approaches in VLE, especially those arising from combining face-to-face and distance education methods in traditional institutions and companies; to critically assess the impact of European diversity on international VLE, in relation to common elements of curriculum, language issues, and institutional adaptation of the E&T systems to open and distance learning; to contribute to innovation in public educational institutions in relation to the restructuring of their functioning, the cooperation with similar European institutions and with the private sector when implementing VLE.

EU programme funding the research:
TSER

Website:
http://xiram.doe.d5.ub.es/IVETTE/

***Source*:** Cordis

Title of project:

Developing learning organisation models in SME clusters – DELOS

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Timetable:
1996-98

Short description:
Often SMEs organisationally take on the characteristics of a cluster. Within the cluster there is a strong integration between local institutions, service centres, training organisations and enterprises. The organisational formula of the cluster guarantees better average performance in companies which belong to it in terms of company results, employment, updating and adjustment of qualifications. The 'clusters' represent privileged observatories for the analysis of employment and learning dynamics. Considering the 'clusters' as a

learning organisation permits, methodologically, to analyse the information flow and the interactions which, in the cluster, give rise to circular processes of competence acquisition, shared know-how, experimenting and progressive correction of collective intervention. In relation to SME clusters it is the group of SMEs which acts as the learning organisation.

The 'interorganisational' learning processes which develop in the SME clusters have not yet been systematically studied from the point of view of implications of collective learning, shared development of knowledge and intervention models. It is opportune to focus attention on the distinct characteristics and on specific organisational learning processes which arise through cooperation between SMEs, so as to clarify their nature and to build support methodologies to increase conscious interventions on these issues. The project objectives therefore are: verify the modalities through which the SMEs clusters intervene as learning organisation and investigate the organisational learning processes that arise through clustering; give 'working' indications capable of supporting training and occupational policies in favour of SMEs. Throughout six different countries,12 different clusters are analysed.

Publication: DELOS project – Developing learning organisation model in SME clusters, final report. Brussels: European Commission – Science, Research, Development, 1998.

EU programme funding the research:
TSER

Website:
http://improving-ser.sti.jrc.it/default/show.gx?Object.object_id=TSER----00000000000005E0&_app.page=show-TSR.html

***Source*:** Cordis

Title of project:

Transnational pilot project: master/supervisor in lean production

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Timetable:
Started 1995

Short description:
Objectives: In an environment where new jobs are being created through the implementation of innovative approaches in future-oriented economic fields, master craft people and supervisors are having to face new challenges in their day-to-day activities. Their role in professional initiation and supervision seems to be diminishing in importance, whereas new skills such as managing and defining the objectives of groups of workers, developing the potential of colleagues and organising team

work are becoming an increasing priority. The aim of this project is to contribute to the changes in the qualifications of a specific category of personnel to accommodate the new production concepts being developed in cooperative structures such as SMEs.

Activities: In a first phase, it is planned to list, analyse and draw up an account of the various national qualification systems for master craft people and supervisors. In the second phase, on the basis of the results of the preceding phase, appropriate training modules will be developed, tested, evaluated and finalised in the form of a global concept, which – in a third phase – will then be published and marketed in German, Swedish, French and English.

Products: Development of a modular curriculum for master craft workers and supervisors in the area of new communication and work organisation methods, organisation of workshops and production of publications of the results of the work.

EU programme funding the research:
Leonardo da Vinci

Website: N/A

***Source*:** http://europa.eu.int/comm/dg22/leonardo/html

Title of project:

Over 45: causes of dismissal and the role of lifelong learning

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Timetable: 1997-99

Short description:
Since the 1980s, many workers over the age of 45 in Europe have progressively been marginalised and excluded from the labour market, as they are considered unable to cope with the pace and nature of industrial change. Early retirement has given rise to a new social category – the senior worker who is no longer regarded as productively viable. Using the lifelong learning approach, this survey and analysis project aims to contribute to the research of new political/social solutions with regard to this social category. An analysis of continuing training schemes will be conducted and several industrial case studies illustrating positive examples of reintegration will be examined in the four partner countries. The results will be discussed at an international convention with the participation of national and local institutions, social partners and training structures with the aim of disseminating successful experiences in the struggle against exclusion from active working life.

Impact: The results will be used to draw the attention of national and local institutions to the importance of lifelong learning in the fight against social exclusion.

Publication:
Over 45: causes of dismissal and the role of lifelong learning

EU programme funding the research:
Leonardo da Vinci

Website: N/A

***Source*:** Mr Pettenello

18. Bibliography

Abrahamsson K., 1999. *Vocational education and training in Sweden*. Luxembourg: EUR-OP.

Acemoglu D., Pischke J-S., 1999. Beyond Becker: Training in imperfect labour markets. *The Economic Journal*, 109 (February).

Baaijens C. et al., 1998. *Monitoring and financing lifelong learning: Country report the Netherlands*. Amsterdam: Max Groote Expert Centre; Rotterdam.

Berufsreifegesetz 1997. In: Bundesgesetzblatt I (Vienna) 68, 1997.

Blomqvist I. et al., 1999. *Participation in adult education and training in Finland: Adult education survey 1995*. Helsinki: Statistics Finland.

bmb+f – Federal Ministry of Education and Research, 1999a. *Berufsbildungsbericht 1998*. Bonn: bmb+f (English summary: *Report on vocational education 1998 (part I)*. Bonn: Bmb+f, 1999).

bmb+f, 1999b. *Competence for Europe: Change through learning, learning undergoing change*, Berlin, 21-23 April 1999. Berlin: Quem Reports.

BMBW – Bundesminister für Bildung und Wissenschaft, 1969. *Berufsbildungsgesetz vom 14. August 1969*. In: BGBl I, S. 1112.

Bottrup P. et al., 1995. *From vocational training to development: Cooperation between enterprise and training institution, coherence between continuing vocational training and work*. Copenhagen: DTI.

Brödel R., ed., 1998. *Lebenslanges Lernen – lebensbegleitende Bildung*. Neuwied: Luchterhand.

Brown A., 1997. *Europrof project paper: Contribution of ideas for Curriculum Development Framework for the initial training and continuing professional development of VET professionals: perspective from the United Kingdom*. Warwick: Institute for Employment Research – Warwick University.

Brown A., ed., 1997. *Promoting vocational education and training: European perspectives*. Tampere: Tampere yliopiston (Ammattikasvatussarja 17).

Cedefop, 1998a. *Agora II, 'The role of the company in lifelong learning'*. Thessaloniki, 17-18 November 1997, Luxembourg: EUR-OP.

Cedefop, ed., 1998b. *Vocational education and training – the European research field. Background report 1998, Volumes I and II. Cedefop*, Luxembourg: EUR-OP.

Chiousse S., Werquin P., 1999. *Lifelong vocational guidance: European case studies*. Luxembourg: EUR-OP.

Confederation of Finnish Industry and Employers, 1997. *The never ending joy of learning: industry's vision of lifelong learning*. Helsinki: Teollisuus ja Työnantajat.

Council of the European Union, 1997. *Council conclusions of 20 December 1996 on a strategy for lifelong learning*. OJ C 7, 10.1.1997.

Council of the European Union, 1999. *Council Decision of 21 December 1998 on the promotion of European pathways in work-linked training, including apprenticeship*. OJ L 17, 22.1.1999.

Council of the European Union, Council for Cultural Co-operation, 1971. *Permanent Education: Fundamentals for an integrated education policy*. Strasbourg.

Danish Ministry of Education, 1995. *10-Point programme on recurrent education*. Copenhagen: Danish Ministry of Education.

DfEE – Department for Education and Employment, 1997. *Design of the New Deal for 18-24 year olds*. Sheffield: DfEE.

DfEE – Department for Education and Employment, 1997. *Excellence in Schools*, London, The Stationery Office – HMSO.

DfEE – Department for Education and Employment, 1998. *The learning age: A renaissance for a new Britain*. London: The Stationary Office.

DfEE – Department for Education and Employment, 1999. *Learning to succeed: A new framework for post-16 learning*. London: The Stationary Office.

Department of Education and Science, 1998. *Green Paper: Adult education in an era of learning*. Dublin: Stationary Office.

Department of Enterprise and Employment, 1997. *White Paper: Human resource development*. Dublin: Stationary Office.

Di Francesco, 1998. *The identification, assessment and recognition of non-formal learning*. Italian report, Cedefop: Thessaloniki, unpublished.

Dohmen G., 1996. *Lifelong learning: Guidelines for a modern education policy*. Bonn: Bmb+f.

Dohmen G., 1998. *The future of continuing education in Europe: Lifelong learning for all, in changed learning environments*, Bonn: Bmb+F.

Durand-Drouhin M., McKenzie P., Sweet R., 1998. Opening pathways from education to work. *OECD Observer*, No 214, Oct/Nov.

DTI, 1997. COREGUIDE – *Examples of good practices in Denmark. Case 3: Coherence between continuing vocational training and work*. Copenhagen: DTI Human Resources Development.

Eggert Hansen M., 1999. *The financing of vocational education and training in Denmark*. Luxembourg: EUR-OP (Cedefop Panorama 5093).

European Commission, 1995. *Teaching and training: Towards a learning Society*. Luxembourg: EUR-OP.

European Commission, 1997a. *Promoting apprenticeship training in Europe*. Luxembourg: EUR-OP, (COM (97) 300).

European Commission, 1997b. *Report from the Commission on access to continuing training in the Union*. Luxembourg: EUR-OP, (COM(97) 180 final).

European Commission – Science, Research, Development, 1998. *Delos project – developing learning organisation models in SME clusters*. Brussels: DG Research, TSER 008.

European Commission – DG XXII, 1999. *Continuing training in enterprises: facts and figures*. Luxembourg: EUR-OP.

Eurydice – Education information network in the European Community, European Commission – DG XXII, 1999. *Key topics in education: volume 1: financial support for students in higher education in Europe. Trends and debate*. Luxembourg: EUR-OP.

Eurydice, 1995. *In-service training of teachers in the European Union and the EFTA/EEA countries*, Brussels.

Eurostat – Statistical Office of the European Communities, 1997. *Continuing vocational training survey in enterprises: results 1994 (CVTS)*. Luxembourg: EUR-OP.

Farstad H., 1999. *Vocational education and training in Norway*. Luxembourg: EUR-OP.

Faure E. et al., 1972. *Learning to be: The world of education today and tomorrow*. Paris: UNESCO.

Gelderblom A. et al., 1997. *The Role of apprenticeship in enhancing employability and job creation: the significance of apprenticeship for the labour market*. Rotterdam: National Economic Institute.

Gelpi E., 1992. Scientific and technological change and lifelong education. *International Journal of Lifelong Learning*, **11** (4) (Oct-Dec), pp. 329-334.

Giddens A., 1998. *The third way – the renewal of social democracy*. Press, Cambridge.

Gil S., Allesch J., Preiss-Allesch D., 1994. *Improving SME access to training: strategies for success: a report on best practice in EC Member States*. Cedefop, Luxembourg: EUR-OP, 138 p.

Gray D.E., 1999. The internet in lifelong learning: liberation or alienation? *International Journal of Lifelong Learning*, **18** (2) (Mar.-Apr.).

Green A. et al., 1998. Draft synthesis of country reports on alternative approaches to financing lifelong learning, forthcoming OECD publication.

Hayes C., project dir., 1984. *Competence and competition: Training and education in the Federal Republic of Germany, the United States and Japan*. London: NEDO.

ILO, 1998. *World Employment Report 1998-99: Employability in the global economy – How training matters*. Geneva: International Labour Office.

Jarvis P., 1999. *The Practitioner Researcher*. San Francisco: Jossey Bass.

Kallen D., 1996. Lifelong learning in retrospect. *The European Journal Vocational Training*, No 8/9.

Kallen D., Bengtsson J., 1973. *Recurrent Education: A strategy for lifelong learning*. OECD/CERI, Paris: OECD.

Kintzer F.C., 1997. Articulation and transfer: Critical contribution to lifelong learning. *In*: Hatton, M.J., ed. *Lifelong learning: Policies, practices and programs*. Toronto: Humber College of Applied Arts and Technology.

Komiteamietintö, 1996. *Ikääntyvien työllistymisedellytysten parantamista selvittänyt komitea 1996: Ikääntyvät työelämässä*. (Ageing in working life). Helsinki: Komiteamietintö 1996: 14.

Kloas P-W., 1997. *Modularisierung in der beruflichen Bildung: Modebegriff, Streitthema oder konstruktiver Ansatz zur Lösung von Zukunftsproblemen*. Bielefeld: Bertelsmann.

Kultusministerkonferenz (1998). *Vereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen: Beschluss der Kultusministerkonferenz vom 5.6.1998 and Rahmenvereinbarung über die Berufsoberschule: Beschluss der Kultusministerkonferenz vom 25.11.1976 i.d.F. vom 5.6.1998*, Bonn. www.kmk.org/beruf/rvbobsch.htm

Layard R. et al., 1995. *Lifelong learning*. London: Centre for Economic Performance, London School of Economics and Political Science.

Longworth N., 1999. *Making Lifelong Learning Work*. London: Kogan Page.

Lundgren U.P., 1998. *Lifelong learning and education: Policy and development in Sweden with references to other Nordic countries*, Stockholm, unpublished.

McKenzie P., Wurzburg G., 1998. Lifelong learning and employability. *The OECD Observer* (Paris), No. 209, Dec. 1997/Jan. 1998.

Ministry of Education, Culture and Science (NL), 1998. *Lifelong learning: The Dutch initiative*. Den Haag.

Ministry of Education, Finland, 1997. *The joy of learning: A national strategy for lifelong learning*, Helsinki, Ministry of Education, 1997.

Ministry of Education, Research and Church Affairs, 1997. *New competence: The basis for a total policy for continuing education and training for adults*. abridged version, Oslo, (NOU: 1997:25).

Monbusho – Ministry of Education, Science, Sports and Culture, 1996a. *White Paper: Priorities and prospects for a lifelong learning society: Increasing diversification and sophistication*. Tokyo. www.monbu.go.jp/hakusyo/1996eng/contents.html

Monbusho – Ministry of Education, Science, Sports and Culture, 1996b. White Paper: *Measures to Improve Lifelong Learning Opportunities in the Community*. Tokyo. www.monbu.go.jp/hakusyo/e-index.html

Ní Cheallaigh M., 1999. *Promotion of apprenticeship and other forms of work-related training in Member States: Discussion paper for DGVT meeting, 27 and 28 September 1999, Rovaniemi, Finland* (http://www.trainingvillage.gr/etv/library/apprenticeship/annex_en.asp)

Nørstegård B., 1998. The reform that gave birth to itself. *Golden Riches – Nordic Adult Learning*, No 1.

OECD, 1990. *The teacher today: Tasks, conditions, policies*, Paris: OECD.

OECD, 1994. *The OECD Jobs Study – Facts, analysis, strategies*, Paris: OECD.

OECD, 1996. *Lifelong learning for all: Meeting of the Education Committee at Ministerial level*. 16-17 January 1996, Paris: OECD.

OECD, 1997. *Labour Market Policies: New challenges – lifelong learning to maintain employability*. Working Paper, Paris.

OECD, 1999. *Training of adults in OECD countries: measurements and analysis*. In: Employment Outlook, Paris: OECD, pp. 132-175.

OECD/CERI, 1975. *Recurrent Education: Trends and issues*. Paris: OECD.

OECD/CERI, 1996. *Education at a glance: OECD indicators*. Paris: OECD.

OECD/CERI, 1998. *Education policy analysis 1998*. Paris: OECD.

OECD/CERI, 1999. *Overcoming exclusion through adult learning*. Paris: OECD.

OECD/Statistics Canada, 1997. *Literacy skills for the knowledge society: Further results from the International Adult Literacy Survey*. Paris: OECD.

OECD, 1973. *Recurrent Education: A Strategy for Lifelong Learning*. Paris.

OECD, 1975. *Recurrent education: Trends and issues*. Paris.

Pery N, 1999. *La formation professionnelle: Diagnostics, défis et enjeux. Contribution du secrétariat d'Etat aux droits des femmes et à la formation professionnelle*. Paris: Secrérariat d'Etat.

Petrella R., 1999. *Competitiveness cannot govern the world: Delegitimising the Davos culture*. Louvain: Catholic University of Louvain.

Romijn C., 1999. *The financing of vocational education and training in the Netherlands*. Luxembourg: EUR-OP (Cedefop Panorama 5090).

Ryan P., 1998. Is apprenticeship better? A review of the economic evidence. *Journal of Vocational Education and Training*, **50** (2), pp. 289-320.

Schütze H.G., Istance D., eds., 1987. *Recurrent education revisited: Modes of participation and financing*. Report prepared for CERI (OECD). Stockholm: Almqvist & Wiksell International.

Secrétariat d'État aux droits des femmes et à la formation professionnelle, 1999. *La formation professionnelle: Diagnostics, défis et enjeux*, Paris: Secrétariat d'État.

Sohlman A., 1998. The Adult Education Initiative in Sweden. *Golden Riches – Nordic Adult Learning*, No 1.

Steinke R. et al., 1999. *Expertisen für ein Berliner Memorandum zur Modernisierung der Beruflichen Bildung*. Berlin: Senatsverwaltung für Arbeit, Berufliche Bildung und Frauen.

Stuart N., 1999. An overview of lifelong learning. An interview with Nick Stuart, Director General for Employment and Lifelong Learning, DfEE. *Individual Learning News*, issue 7. March 1999. www.lifelonglearning.co.uk/iln7000/iln70001.htm.

Sutton P.J., 1994. *Lifelong and continuing education*. In: International Encyclopaedia of Education, 2nd. ed., Vol. 6. Oxford: Pergamon Press.

Tanguy L., 1983. *Les savoirs enseignés aux futures ouvriers*. In: Sociologie du travail, No 3, p. 354.

Tessaring M., 1998. *Training for a changing society: A report on current vocational education and training research in Europe 1998. Cedefop*, 2nd ed. 1999, Luxembourg: EUR-OP.

Tobias R., 1999. Lifelong learning under a comprehensive national qualifications framework – rhetoric and reality. *International Journal of Lifelong Education*, **18** (2).

UNESCO, 1996. *Learning: The treasure within: Report to UNESCO of the International Commission on Education for the Twenty-first Century*. Paris: UNESCO Publishing.

Van Riezen K., 1996. Non-formal education and community development: Improving the quality, *Convergence* XXIX(1), 82-93.

Wain, 1993. Lifelong education and adult education – the state of the theory. *International Journal of Lifelong Learning*, **12** (2) (April-June).

Training for new jobs: contents and pilot projects

Jeroen Onstenk

Abstract

The paper discusses the need for and the prospects of curricular redesign of vocational education and training as an answer to changes of job profiles and skill requirements. The first part deals with new skills needs, developments in the labour market and the responsiveness of the vocational education system. Two main strands could be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach.

The second part deals with new curriculum designs. It discusses whether and how these new requirements are met by redesigning initial training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. Two main focal points are distinguished: first, innovations which accentuate (learning to) learn and study and the development of the self-directed student. Second, innovations which focus on learning how to solve occupationally relevant problems and how to work effectively in changing organisations: the development of the self-directed professional.

Table of contents

1. The responsiveness of the vocational educational system 321
1.1 Generic skills, key qualifications and core competences 322
1.1.1 Core skills and general qualifications 322
1.1.2 Key competences and broad occupational competence 324
1.2 Occupational core problems 326

2. New curriculum designs in vocational education 328
2.1 Core skills and general qualifications in VET 328
2.1.1 Learning and teaching GNVQs (England) 329
2.1.2 The General Qualifications project (Denmark) 330
2.2 Self directed learning in VET 332
2.3 Learning for broad occupational competence 334
2.3.1 Core problems in vocational education 335
2.3.2 Problem-based learning 337
2.3.3 The 'block books' approach for the building engineer course (Netherlands) 338
2.3.4 Learn work tasks in 'Schwarze Pumpe' (Germany) 341
2.3.5 Learning-acting in a simulated company (Germany) 344

3. Redesigning VET: prospects, problems and policies 345
3.1 Broad professional competence 346
3.2 Dilemmas in didactic innovation 347
3.3 Policy Objective: competence development by didactic innovation 348

4. Summary and policy recommendations 350
4.1 Conclusions 350
4.2 Recommendations 352

Bibliography 353

1. The responsiveness of the vocational educational system

This part focuses on new skill demands, developments in the labour market and the responsiveness of the vocational educational system. Jobs are changing at high speed because of new technology, changing markets and the rise of new organisational paradigms. Information and communication technology in the workplace leads to a shift from an emphasis on action centred skill to intellective skills (Zuboff 1988). Companies have to respond to changing market demands with regard to variety, flexibility and quality. In order to cope with both these developments, new production and organisational concepts are introduced which enlarge the autonomy and responsibility of workers by enriching jobs, integrating problem solving and quality care in production jobs and diminishing the layers of management (Onstenk 1997b).

As a result, many firms require a work force with more, and different, competences. These include an increase in general abilities, such as numeracy and literacy skills, in order to deal with the growing amount of information processing, as well as organisational and communicative key qualifications and technical skills in order to effectively solve production and organisational problems. At the same time, a sharper and more mobile labour market asks for more employability. Employers, management consultants and even unions welcome the concept of employability, although it is not at all sure that they are wanting the same thing. We are on our way to a 'risk society' (Beck 1986), where everybody is responsible for his or her own destiny.

In a market society individuals are forced to rely on their competences and abilities and their willingness to develop them. However, at least two different images are hidden behind the concept of employability (Onstenk and Kessels 1999). On the one side is the mobile entrepreneurial job seeker or job hopper, always looking for opportunities and ready to move. On the other side is the flexible, employable worker, able and willing to attend training, perform a variety of tasks, geographically mobile, cover a broad qualitative and quantitative spectrum and prepared to work at non-standard hours (Bolweg and Maenhout 1996).

Most definitions of employability tend to cover a very narrow field and to emphasise the growing relevance of general skills. Competences regarding professional substance appear unimportant or even as a hindrance. Whereas, in most cases, broad and deep content-specific competences are still the most important employability tools someone could have. In a mobile labour market the asset of having recognised qualifications is not less, but more important. So at the same time as pleas for more flexibility are heard, a tendency to establish or improve qualification structures and to establish mechanisms to recognise and certify competences acquired outside education or training can also be observed.

Occupations can be a very strong instrument to improve structuring and functioning of the labour market, as well as improving people's chances (Hövels 1998). Of course this does not deny the need for further individualisation and for the development of people's abilities to plan their careers and to ensure versatility on the job market (Meijers 1995). So a new concept of vocational education is needed which better prepares people for this problem area, full of contradictions.

There seems to be a growing conviction in Europe that (vocational) education should give students the basic equipment to cater, on the one hand, for the growing demands for competences while, on the other hand, enabling workers to obtain a firmer grasp of their opportunities for personal enrichment. Changing job and labour market requirements are a challenge for vocational education and training, both of which have to respond to increasing demands with regard to the amount of learning and training needed, as well as to the content of training.

Vocational education is increasingly regarded as the beginning of a vocational learning career, rather than as the summit of skill acquisition. During working life workers will have to attend further training and change

jobs on a number of occasions. This means that vocational education must offer a broad base including technical, methodical, organisational, and communicative as well as learning skills. How this objective is to be reached is less sure, and there are different answers.

1.1 Generic skills, key qualifications and core competences

There are different European models for the responsiveness of training systems in adapting contents and curricula to changes in occupations and the labour market. An important theme is the inclusion of a broader concept of skills (i.e. key qualifications, core skills, competence transversal, broad occupational competences) in the qualification system and in vocational education. Changes in the skill requirements of jobs and underlying reasons (e.g. new technologies, restructuring of work organisation, outsourcing/out-contracting, new types of jobs, changing employment patterns) are identified, as are implications for training contents and curricula.

In the European discussion it is emphasised that the broadening of occupational requirements (problems to be solved) should lead to a multi-dimensional analysis of skills needed in the work place. These are not restricted to the level of 'technical' job-specific skills. Many approaches and definitions can be distinguished with regard to the need for a broader concept of skill, including both more complex and information skills, organisational skills and social-communicative skills. Two main strands can be distinguished, comparable respectively to the core skills and key competences strands distinguished by Kämäräinen and Streumer (1998). The third strand distinguished by these authors, the German model of key qualifications, can be seen as a special case of the second strand, as for example illustrated by recent use of the concept of key competences (Heidegger and Rauner 1997).

1.1.1 Core skills and general qualifications

The first strand centres the discussion around the concept of basic, generic or core skills (Carnevale et al. 1990; Levy 1987, 1989; Stasz 1998). The basic idea is that changing conditions ask for more general, work-related skills, as distinguished from more narrow, occupation-specific skills. At first the growing awareness of the importance of this new broad or core skills was matched by an even faster growing confusion concerning their precise content and conceptualisation (Onstenk and Moerkamp 1999).

In the Anglo-Saxon world at the beginning of the nineties there is common ground emphasising core skills like communication, mathematics, reading, writing, planning, co-operation and planning. With regard to the United Kingdom, Brown (1998) concludes that:

'...the national approach to core skills generated in the idea that they could be used as a developmental tool to give structure and direction to learning in the workplace (particularly on Youth Training Schemes). As they were used primarily in education for 16-19 year olds core skills became identified with the more remedial function of equipping significant numbers of young people in each age cohort with basic skills and understanding that they have not acquired through the compulsory phases of education. The association of core skills with the skills necessary for employment was interpreted as part of a wider attack, in which an emphasis upon skills was seen as undermining the traditional model of education, with its emphasis upon knowledge, understanding and cognitive development'.

In the USA the Secretary of Labour's Commission on Achieving Necessary Skills (SCANS), identified in 1991 along the same lines, a list of three foundation skills (basic skills, thinking skills and personal qualities) as well as five generic 'work competences' (resources, interpersonal skills, information, systems and technology) (Stasz 1998). In Australia the Mayer Committee identified seven strands of key competences, with three performance levels defined by complexity and situational familiarity (Stevenson 1994):

a) collecting, analysing and organising ideas and information;

b) expressing ideas and information;

c) planning and organising activities;

d) working with others and in teams;

e) using mathematical ideas and techniques;

f) solving problems;

g) using technology.

Skills listed like this do not refer to specific tasks or clusters of tasks employees should be able to perform, but to general skills that employees are supposed to need to be able to work in a whole series of jobs or even any job at all. They can be considered as entry-skills. This includes both elementary skills like arithmetic, reading or writing skill, general cognitive skills (problem solving) and social-communicative or interpersonal skills. These skills are supposed to be fundamental for performing many tasks, for and a whole range of occupations and to ground specific occupational skills.

In many other countries there is an observable tendency to discuss changing and broadening skill needs in terms of general qualifications, albeit rarely as the dominant aspect. In Denmark Andersen et al. (1996) propose the concept of general qualifications. Shapiro (1999) emphasises the acquisition of general and personal competences as an important objective of the major Reform 2000, which will transform the Danish Vocational Educational system. It could even be stated (Kämäräinen and Streumer 1998) that a variety of the German key qualifications concept could be grouped under these approaches, that is when key qualifications are considered as general labour market skills next to and apart from, or even instead of, specific occupational skills (Mertens 1974; Wilsdorf 1991; Geissler and Orthey 1993). The same idea has been put forward in the Netherlands, both in theory and research (Nijhof and Streumer 1994; Van Zolingen 1995) and in policies. Several sectoral national bodies have included lists of key skills in their attainment terms, although, at the same time, it is emphasised that these have to be made concrete for the occupation (SER 1997).

Learning skills

In many countries a strong emphasis is found on learning skills as an objective for vocational education. This could be seen as a specific example of the core skills approach. As the need for acquisition of new and broader competences grows in order to enable employees to keep up with the speed of change (technological, market driven, organisational) the capability and willingness to learn becomes a prerequisite for the modern worker (Nijhof and Streumer 1998; Stasz 1998; Onstenk 1997b; Simons 1998b). Learning to learn and self-directed learning have become important dimensions of working life. This, of course, is stressed in all countries and by most VET researchers. They differ, however, in the estimation of the amount of learning needed and in the approach to learning, either as a specific skill or as a component of a broader concept of competence.

The implications of this are, in general, much better elaborated then most other core skills. Straka (1997) makes a distinction between skills with regard to interest and goal setting, executive learning strategies, cognitive and emotional control strategies and the ability to evaluate learning results. In many cases the willingness of the learner and the responsibility of being his own teacher is emphasised (Nyhan 1991). Simons (1998b), however, stresses that at least three kinds of learning are needed. Learner–workers should be able to learn (as an individual, at the team level and at an organisational level), and to be flexible in several respects (time, place, job). They have to know how to learn in formal settings, but also to learn from and on the job (experiential learning on their own and especially in cooperation) and to learn in a self-directed goal-directed way (action learning).

Learning skills for formal and also self-directed learning may be derived from the learning functions (planning, preparation, execution and control of learning activities). Non-formal learning can appear as action learning or self-directed learning when there is explicit attention to learning, including the formulation of learning goals, a choice of learning strategies and an explicit testing or

measurement of learning outcomes in various ways (not only through a standardised test). It can also appear as experiential or incidental learning, where learning can be seen as a side effect of problem solving, working or acting. In this case there is no explicit regulation of learning: no learning goals, no learning strategies and no testing of learning but there is still learning, even very important learning.

Simons presents a list of skills and attitudes that relate to experiential learning. These include looking for opportunities to get feedback, to reflect, to innovate and experiment and to develop a vision. Also giving and accepting feedback, trying out new things and making mistakes are important. Learning is improved when the worker-learner has theory-orientation and is interested in the background to what he is doing. Perhaps the most important condition Simons (1998b) mentions is that the worker-learner should be prepared and able to work with experts, colleagues, managers and also clients in such a way that he can learn from and with them.

1.1.2 Key competences and broad occupational competence

The second strand focuses on key competences and key qualifications. Kämäräinen and Streumer (1998) emphasise that these concepts refer to sets of competences that transcend traditional divisions of labour and traditional occupational profiles. Competences are related to organisational learning and to new production concepts. In France this discussion comes under the heading 'competence transversale', in Germany under 'key qualifications' and 'action competence' *(Handlungskompetenz)* and in the Netherlands under a series of concepts ranging from extra-functional to broad occupational competence. Brown (1998) stresses the difference between this concept and the UK-brand of core skills. In his view, 'key qualifications' were associated from the beginning with the need to broaden and deepen vocational education and training, in relation to development of an underpinning knowledge-base and increased emphasis upon logical analytical and critical thinking (Wilsdorf 1991; Laur-Ernst 1989; Reetz 1989; De Jong et al. 1990; Hövels 1998; Van Zolingen 1995). Van Zolingen (1995) identified 'key qualifications' in terms of knowledge, insight, skills and attitudes.

The German and Dutch discussion refers to cognitive, organisational-strategic and social-communicative skills, connected to change in the organisation and demands of work. The concept builds on a sociological distinction originally made by Dahrendorf (1956) between functional and extra-functional qualifications, later elaborated by Kern and Schumann (1970) in a distinction between process-dependent and process-independent qualifications. Mertens (1974) introduced the concept of key qualifications, building on this tradition, as a number of broad qualification dimensions that are needed by workers in the modern labour market next to their – defined in very limited terms – vocation.

In the aftermath the concept has been elaborated in two directions. On the one hand it is integrated in new descriptions of vocations in the German dual system and in that sense led to much broader definitions of vocational content (Reetz 1989). From this perspective emphasis is laid on the embeddedness of specific tasks and jobs in the labour process as a whole (Laur-Ernst 1989) and on situated social, organisational and strategic dimensions of occupational practices. A distinction is made between task competence, methodical competence and social competence (Arnold 1994). On the other hand, the concept of key qualifications is sometimes also elaborated by drawing up long lists of key qualifications as qualifications next to specific occupational content (Wilsdorf 1991). In the Netherlands Van Zolingen (1995) attempts to combine these perspectives by defining key qualifications as the broad, common core of occupations. She distinguishes six dimensions of key qualifications: general-instrumental; cognitive; strategic; social-communicative; social-normative; personality. This concept has for some time had considerable influence on the policy debate regarding the broadening and innovation of vocational education (SER 1997; Van Zolingen et al. 1997).

In the Netherlands the concept of broadly applicable skills (De Jong et al. 1990; On-

stenk 1992) tried to combine both traditions. It concentrated on strategic effectiveness and social and communicative performance skills. Strategic effectiveness involves various skills: problem solving skills; organisational skills; versatility (multi-skills, procedural knowledge); and leadership skills. Social and communicative performance refers to the social character of the work place, both as a working environment and a social context. It implies cooperative skills, social-communicative skills and cultural skills. Both strategic and social competence imply commitment and motivated activity. De Jong et al. (1990) proposed a list of situational skills, that distinguished between strategic, social-communicative and motivational dimensions, related to job management and work environment. Strategic effectiveness demands problem solving skills, organisational skills, versatility (multi skills, procedural knowledge), leadership skills and methodical skills. The social dimension demands cooperative skills, social-communicative skills and cultural skills. As motives of activity Onstenk (1992) made a distinction between several aspects: professional attitudes; motivation and commitment; flexibility; responsibility; and the ability to handle emotions, fear and uncertainty.

In a further elaboration of this approach Onstenk (1997b) shifts emphasis to the need for integration of so-called general skills in a coherent ability to perform. Based on the analysis of occupational problems elaborated above, he develops a concept of broad professional competence *(brede vakbekwaamheid)*, in which seven dimensions are distinguished, parallel to the kind of problems a person has to deal with in work. He defines broad occupational or professional competence as a multi-dimensional, structured and internally connected set of occupational technical, methodical, organisational, strategic, cooperative and socio-communicative competences, geared to an adequate approach to the core problems of the occupation. In order to respond to the need for change, to participate in and contribute to innovation and to acquire new competences he adds 'learning and shaping competences' as necessary elements in broad professional skill.

This analysis has been accepted and elaborated recently in a white paper of the Advisory Committee for the qualification structure (ACAO 1999), which makes core competences the central element in both occupational and qualification profiles, aiming at improvement of vocational education as a preparation of the demands in actual occupational practice. ACOA (1999) concludes that, in the Netherlands, a consensus is reached on the need and usefulness of a clear qualification structure, based on occupational profiles that are legitimised by social partners. There is also consensus on the need for the development of broad vocational education, both with regard to the range of occupations and with regard to threefold qualification; for an occupation, for further (vocational) education and for citizenship. But there is a need to achieve more coherence and comparability by developing more elaborated formats.

ACOA emphasises core competences as a learning objective for vocational education. Four fields of competence, needed for any job, are distinguished:

a) vocational *(vakmatige)* and methodical competences refer to the vocational content and specific activities, assignments problems and contingencies and to the development of adequate approaches to these problems;

b) organisational and strategic competences refer to the ability to organise and plan tasks (task management) and to work in specific work and organisational environments (i.e. different organisational concepts);

c) social, communicative, normative and cultural competences refer to problems connected to working in groups and the participation in the community of practice at the level of a team, a company or a profession;

d) learning- and shaping competences refer to the contribution to one's own learning and development and the development and innovation of organisation or the profession.

This elaboration could also be of relevance for other European countries, as it includes in a

structured and broad, occupational-centred way the aspects distinguished in most key qualifications, concepts or core skills lists. Also it is compatible with the prominent UK definition of Job Competence of Mansfield and Mitchell (1985, 1996), which makes a distinction between work activities, managing different work activities, managing contingencies and managing the interfaces with the work environment. Also it matches the main dimensions of action competence, as discussed in Germany (Dehnbostel and Walter-Lezius 1995; Heidegger and Rauner 1997).

1.2 Occupational core problems

As a result of these new demands, emphasis is being laid on the competences workers need in order to act adequately and to solve occupational problems. In Germany the importance of action competence *(Handlungskompetenz)* as an objective of vocational education is emphasised (Laur-Ernst 1985; Heidegger and Rauner 1997). In the UK NVQs are competence based, albeit in a much more limited way. A central theme in this discussion is how to analyse and represent occupational problems. In the Netherlands the concept of Core Problems as a fruitful way of both identifying essential aspects of broad occupational competence and key qualifications, and of designing methods to deal with this in vocational education has won some recognition (Onstenk 1997a, 1997b; Blokhuis and Van Zolingen 1997) and is being elaborated in concrete proposals for improvement of Dutch qualification structures (ACOA 1999). Brown (1998) states that the attempt to use 'core problems' as a focus for the development of 'key qualifications' (Onstenk et al. 1990; Onstenk 1997a; Van Zolingen et al. 1997) may also have considerable value for the development and implementation of broadly framed curricula for 'vocational' higher education in England. So, what are core problems?

Problems in work practice do not occur one by one separately, but in specific combinations. It is not only expected that a competent worker can perform a set of tasks and solve the routine problems that occur, but he also must be able to manage and plan different tasks and handle unexpected problems and change (contingency management). And that must be accomplished in the context of the organisation as a whole, that is the production process, as well as the organisational and social-communicative environment (Mansfield and Mitchell 1996).

In a specific occupation, problems occur in specific combinations. If, for example, we look at caring occupations, production demands stem directly from the caring and nursing tasks in relation to the patient. These can already be quite complex, requiring technical, medical, social and emotional skills (Benner 1984). Organisational problems result from specific task divisions, but also from changing business policies. So Dutch experiences show a growing tension between the demand for a more efficient businesslike approach and a client centred approach, which both depart from the traditional institutionally centred approach (Onstenk 1997a). Social-cultural demands have to do with formal and informal rules within the occupational group, within the specific team someone is working with, but also with others, i.e. doctors. It is important to realise that these are not nicely tuned demands, but that concrete situations can show contradicting demands, which makes situated deliberating and choosing necessary. This complex combination of problems can, for specific occupations, be condensed into central, specific, characteristic combinations of production problems, organisational forms and social-cultural environments and problems. These sets could be described as the core problems.

Core problems are central to the performance of roles of particular groups of practitioners. They are characterised by uncertainty, complexity and conflicting considerations that require the exercise of judgement. These problems may have organisational, occupational and technical dimensions, and their solution may require knowledge, insight, skills and attitudes related to these dimensions, as well as inter-disciplinary knowledge, the application of high-level cognitive skills and the inter-related use of communication and other core skills (Onstenk 1997a, b). These are precisely the type of issues with which new en-

trants will have to grapple if they are to make successful transitions from trainees or novices into experienced practitioners.

Core problems, then, are problems and dilemmas which are of central importance for occupational performance. Core problems occur regularly as part of occupational practice; they are characteristic for the profession. Professionals are expected to find an efficient and effective approach and solution. Core problems are essential characteristics of the professional task, in which decisions and choices must be made, in which deliberate application of knowledge and skills and the appropriate set of action alternatives in the right speed determines the degree of expertise.

Core problems are important on two different levels for learning and the acquisition and development of professional competence. On a direct level the learner acquires competence and expertise regarding central elements of the occupation. At the same time, more general learning, problem-solving and meta-cognitive skills are developed in solving specific and concrete core problems by learning to handle complexities, contradictions and uncertainties. Thus learning through core problems contributes to the development of transfer skills. Core problems can be distinguished in breadth, depth and complexity. They do not look the same for a beginner or an expert (Dreyfus and Dreyfus 1986; Benner 1984). Different levels of the learning process imply different levels of complexity for core problems as a didactic strategy.

Core problems refer to occupational situations in which complex problems are solved, and in which the specific characteristics of the situation, and the social context, are of central importance. This implies uncertainty and the need to balance different, sometimes contradictory considerations and interests against each other. A distinction must be made between the level of complexity and the situational dimension of core problems. Complexity refers to complexity of required activities: handling different kinds of information at the same time; recognising different dimensions of a problem; possible contradictions; differences in importance; the need for deliberate reasoning and choices as part of the job or task itself.

This core problem approach has a strong resemblance to the German discussion on action-centred occupational analysis. Actual occupational practice in real working situations is characterised by a strategic and social dimension (Buck 1989). Strategic action relates to task management and structure of regulation, inasmuch as these are characterised by a certain amount of internal and/or external regulation autonomy or freedom of action (Frei, Duell and Baitsch 1984). Each task and work environment is characterised by a degree, however small it may be, of uncertainty, uniqueness or conflict (Buck 1989).

Core problems could offer vocational education an integrated approach (Onstenk 1997a,b; Brown 1998). The concept of core problems connects the determination of the central issues of the profession with the importance of making decisions and choices in both occupational expertise and educational practices/ learning processes. Competence develops by solving problems, meeting challenges, taking decisions, considering different action possibilities, weighing up alternatives (Frei et al. 1984; Onstenk 1992, 1997b; Dreyfus and Dreyfus 1986). Core problems also highlight the way professionals working in one sphere increasingly have to deal with issues that are not necessarily within a single disciplinary compass, and that they have to be able to work with colleagues and in groups with different kinds of expertise (Engeström 1994). Young and Guile (1997) argue that increasingly professionals need to possess a connective, rather than an insular, form of specialisation, which stresses the ability to look beyond traditional professional boundaries (Brown 1998).

Situated learning theory (Brown et. al. 1989; Raizen 1989; Scribner 1984, 1986; Lave and Wenger 1991) and with some reservations also activity theory (Laur-Ernst 1990; Engeström 1994) suggest that learning in and through the work process itself can be a very effective way to acquire this kind of work-related knowledge, key qualifications or broad occupational competence. But new challenges are

also raised for vocational education, to which we turn in the second part of this chapter.

2. New curriculum designs in vocational education

This second and main part of this chapter deals with new curriculum designs in vocational education. How are the new requirements met by redesigning initial vocational training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. This includes the development of forms of integrated learning and problem-based education. In many European countries new training profiles are developed in initial and in continuing training in an attempt to narrow the gap between vocational education and the demands of occupational practice. Attempts are also made to create more integrated learning trajectories by better coordination of learning places (BIBB 1999).

Different European countries offer different answers to the challenges of vocational education. These can be grouped in two strands, reflecting the discussion on new competence demands. A first group of innovations aims at strengthening the general or core skills dimension, but a second, and growing group focuses on preparing students for broad occupational competence by including central occupational problems (core problems) in the vocational curriculum, both by learning on the job and by learning in school. Kämäräinen and Streumer (1998), who make comparable distinctions between curriculum concepts (atomistic and holistic; collection code and integrative code; bipolar and integrative curriculum regimes) stress the fact that that there is a mutual relationship between curriculum design and the way new competences or skills are defined.

In the remainder of this chapter the central focus of both strands, as well as some examples of 'best practices and innovations' in different countries are presented. As work-based learning is discussed in other chapters (cf., for example, Dehnbostel and Dybowski 2000), this chapter will focus on the school as a vocational learning environment. Examples will be taken mostly from the Netherlands. In Dutch school-based vocational education there is much innovation. Attempts are made to create powerful learning environments in vocational education and to develop new didactic concepts. Vocational colleges *(rocs)* are increasingly interested in methods which promote self-directed and self-paced learning, but also problem-based learning. There are also examples from Germany, England and Denmark where there is a growing recognition of the importance of the role of the vocational educational school in responding to new competence demands.

There are many different approaches to didactic and methodical innovations in vocational education. The main development could be defined as a switch from a mainly instructivistic to a more constructivistic paradigm (Salomon 1998; Simons 1998a). Important themes relate to the content, structure and sequence of learning places and the new roles of teachers and coaches. New concepts for a more active role of students have been developed. Contents are enriched with occupational problems. Didactics aim for strong learning environments (Brown et al. 1989), based on constructivistic approaches, situated learning and activity theory. An inventory of new didactic forms in the Netherlands (Onstenk, Moerkamp and Van Gelderen 1999) distinguished open learning (Internet, open learning centres); self-directed learning (learning skills, learning styles) and problem-steered learning (discipline-oriented, practitioner-oriented). This seems also a useful distinction to analyse didactic innovations on an European scale. This chapter will concentrate on self-directed learning and problem-based learning, as these seem connected most directly to both strands of competence needs.

2.1 Core skills and general qualifications in VET

One very important result from the identification of general or core skills is the formulation of new objectives for both general and vocational education, which should prepare better for the labour market. There are several examples of new didactic designs aiming

to promote general qualifications or core skills as a learning outcome. An obvious example is to be found in GNVQ-courses in England. Another one is the General Qualifications project in Denmark.

2.1.1 Learning and teaching GNVQs (England)

In England, GNVQs were set up as a 'middle pathway' in a three track education and training system between vocational education and general education. GNVQs are designed for educational purposes to develop knowledge, skills and understanding in a broad area of work, such as manufacturing or business, to improve ability to communicate well, use information technology, and work with numbers and to develop skills in planning, handling information, evaluating work and teamwork. Brown and Keep (1999) remark that emphases on student choice, experiential learning, core skills and learner autonomy were constrained by regulations framed by state agencies. They recall the analysis of Green (1998), who criticises the lack of a general education foundation in British VET. This gap has been filled by the much narrower surrogate of core skills.

Green concludes that the English concentration on a restricted range of core or key skills (such as communication, IT and the use of numbers) provides a much narrower education to a lower standard than is generally found overseas. His conclusion is that 'the core skills paradigm represents an impoverished form of general education which is neither adequately delivering the minimum basic skills normally associated with an effective general education, such as verbal articulation, logical skills and mathematical literacy, nor even attempting to impart a foundation of scientific and humanistic culture adequate to the demands of active citizenship in modern societies' (Green 1998: 40). According to Green it is not very likely that the core skills model of VET is able to produce broadly skilled, polyvalent workers. Gleeson and Hodkinson (1995) point to developments such as GNVQ having taken place within policy discourses which did not address any broader vision of citizenship and learning or take into account the over-lapping dimensions of personal effectiveness, critical autonomy and community.

Nevertheless, Brown concludes, depending upon how GNVQ is implemented in practice, it can be a powerful vehicle for meaningful learning and personal development. Branson and Walsh (1999) claim that the single most influential factor in raising esteem for GNVQ and vocational education was the experience of taking part in GNVQ. They found that as individual teachers and learners had gained first hand experience of GNVQs they had come to hold them in high regard. To achieve a GNVQ award, students are required to demonstrate full coverage of curriculum by meeting the performance criteria and evidence indicators for each unit. They are assessed on the quality of their learning processes – their planning, information seeking and handling, and evaluation – as well as their learning outcomes. Harkin and Davis (1996) show how teachers on GNVQ programmes may adopt warmer, more supportive communication styles in relating to students. Branson and Walsh recognise an element of paradox about this:

'GNVQs are specified in the form of learning outcomes. Official guidance for teachers emphasises that how students acquire 'knowledge, skills and understanding in a broad vocational area' is not important. 'The important thing is what students learn, not how they learn it'. Yet, when asked what they liked about GNVQ, in almost every instance, the students and teachers involved in this research referred far more to the process of teaching and learning – sometimes referred to as the 'GNVQ way' – than to the content or outcomes of the courses'.

According to this research the design, delivery and management of GNVQs is left in the hands of teachers and students. Plenty of enthusiasm and imagination with respect to these tasks were witnessed. However, it was also found that GNVQ structures, components and (most particularly) assessment patterns inspired a distinctive and fairly consistent overall approach to teaching and learning. The researchers stress that the gathering of evidence to meet GNVQ assessment require-

ments is only feasible if the students take a significant role in the management of their learning. Also internal assessment in combination with the right to redraft and upgrade work stimulates formative interaction between student and teacher on an individual basis. Self-management of learning and one-to-one formative assessment were integral aspects of the valued 'GNVQ way' in the schools investigated by Branson and Walsh (1999). They give the following comprehensive observation of a GNVQ Advanced Science session. This observation, according to the researchers, exemplifies to a greater or lesser degree all the features of the GNVQ way of working to which teachers and students referred in explaining their high esteem for their GNVQ course. These included:

- student management of the pace, location and methods of work;
- mixture of independent and group work;
- more student-led than teacher-led activity;
- a more interactive and democratic relationship between student and teacher than previously experienced;
- regular use of information technology;
- independent research and reference work;
- opportunities to work on a variety of tasks in a variety of locations;
- work set (imagined, envisaged, some of it actually done) in meaningful business/industry or other vocational contexts;
- plenty of practical work;
- formative feedback from the teacher and other students;
- knowledge and understanding of the content, structures and assessment requirements for the course;
- student involvement in the assessment process and opportunities to redraft and improve assessed work.

In this research students and teachers tended to summarise their favour for these features in terms of the merits of active, responsible and meaningful learning. Among these merits, sheer enjoyment and relish in the process featured as much as, or more than, benefits in terms of specific learning outcomes.

GNVQs are intended to prepare students for further/higher education or work. Regarding the former, Branson and Walsh found that subject knowledge and understanding were considered to be adequate for most relevant further/higher education courses. As to work, most students had no intention of progressing to a job immediately after they completed their GNVQ, but most believed that, in terms of know-how in relevant job areas, GNVQ had already demonstrated its value in their work experience and/or their part-time jobs.

2.1.2 The general qualifications project (Denmark)

Core skills are often considered to be too narrowly defined (Brown 1998, 1999). Looking for alternatives in this direction, Denmark offers an option. In the General Qualifications Project (Andersen et al. 1996) a concept of teaching was developed which aims for general qualifications. In this project the student, the one to possess and develop the qualifications, is given a central position as a subject. Other aspects are observed from this point of view. By placing the subject in the centre, the dialectic between societal and external interests and influences, and subjective qualities and preconditions, becomes visible and accessible to analysis. According to Andersen et al. (1996) it is necessary

'to take into consideration whether perhaps conditions outside the subject should be changed, rather than the subject itself. If the point of departure is in the resources of the subject rather than its shortcomings, it might become obvious that the real block to developing the working process is located in the organisation of the work itself, or in other agents in the production process, e.g. superiors. Consequently the adequate process of "qualifying" would not be to change the fea-

tures and abilities of subjects, but to change the framework within which they are to function'.

The analysis emphasises the importance of paying attention to the relationship between qualifications and qualifying at an early stage. The circumstances under which specific types of qualification could be developed are considered an important factor in the formulation of the needs for qualifications. In addition, the process of qualification might be understood as having an influence on qualification itself. Andersen et al. make the convincing point that:

'the qualifications usually referred to as general [...] will often be developed as an effect of the how of the education (e.g. the pedagogical form and didactic principles), rather than an effect of the what (e.g. the content of the education)'.

General qualifications are described by Andersen et al. in terms of the important features of present demands in workplaces:

- general skills in communication, abstraction, and symbol analysis;
- an active, structural understanding of social and working conditions;
- personal engagement and agreement in identity in relation to relevant activities;
- active individual and collective potential for development and resistance.

The decisive characteristic of all these fields, according to Andersen et al., is that they involve personality and identity in an integrated way, that is to say different from a mere isolated acquisition of knowledge and skills. This sets conditions for the learning process that first and foremost have to do with motivation. When learning encompasses personal development, active motivation, positive and personal engagement take on the character of a necessary condition.

Andersen et al. stress the fact that it is important to understand that active motivation is not just a matter of what one immediately would like to do.

'The strongest motivation is probably found when it has the nature of personal objectives which usually consist of a mixture of elements linked to desire, necessity and personality that can be both conscious and unconscious in nature.... Motivation is also linked to content: in occupational settings one would like to achieve something more than general personal development. But in the educational context, it is more directional and encompasses an element of content that one would like to cultivate or develop'.

After stressing the necessity of building on active and positive motivation in relation to the course of education and its content, Andersen et al. list a number of conditions that general qualifying programmes of education should meet. There must be guidance or supervision in connection with admission to the programmes to ensure that participants realise what they want to get out of them. This requires quite radical innovative re-thinking of the types and general procedures of guidance and supervision offered to or imposed on applicants. To put this bluntly: it should be counselling of persons rather than guidance towards an education. It should primarily have to do with clarifying the motivation of the individual, with selection of line of education coming in second place.

Courses should give priority to, and be designed to meet, participants' needs before those of the current labour market. This kind of priority is also in accordance with the recruitment and personnel policy of most modern enterprises, it being more important to attract motivated staff than people with a qualification profile that is absolutely right. If the motivation is there it is rarely a problem to ensure practical upgrading of qualifications or any retraining that might be necessary.

In addition, the framework and practice of the programmes of education should be flexible enough for participants to feel that they have some connection with their motivational starting point. This latter is a pedagogical goal that

many adult education teachers strive to attain. However, it presupposes this flexibility, i.e. that individual teachers have enough freedom to adapt content and method to the needs of participants with many different types of educational motivation.

Finally, Andersen et al. stress that it is important that participants can experience learning places as a framework for, and invitation to, both professional and personal development. They show a tendency in adult education in Denmark for the strong sides of programmes of education to dominate while their less strong sides are further weakened through the locations' physical and mental environment and their self-conception. For instance, the strength of adult vocational training programmes derives especially from their close association with, and orientation towards, the labour market, while participant orientation is weaker, being at best something that individual teachers establish.

At the practical pedagogical level the importance of the motivational factor must lead to consideration of how participants' interests and preferences can be employed and how they can influence the educational activities. Andersen et al. distinguish two basic didactic dimensions, a content dimension (stretching from traditional subject-mater orientation to problem orientation) and the direction dimension, stretching from teacher direction to participant direction (or from other to self-directed learning). Combining these two dimensions, four types of educational activity are distinguished:

1. teaching (teacher, subject-matter);

2. exercise (teacher, problem);

3. studies (self, subject-matter);

4. projects (self, problem).

As motivation is mostly enhanced by participation and problem orientation, the model at least gives an indication that models other than teaching should be applied, to make personal development and general qualification possible.

2.2 Self directed learning in VET

A second kind of new educational designs deals explicitly with learning competences. Now, this is an objective that is present in most innovative designs. But some focus explicitly on this. A rather new development, seen in several European countries, is the emphasis on promoting self-steered and self-directed learning in initial vocational education (Straka 1997). There are several varieties of this. The conceptual framework of self-steered learning is developed in cognitive and constructivistic learning psychology (Boekaerts 1997), whereas the concept of self-directed learning derives from adult education (Tough 1979; Brookfield 1986).

In didactic approaches that aim for self-steered learning, educational methods are developed to foster active learning, self-steering meta-cognition and learning skills (cf. Straka and Stöckl 1998). This is motivated by the finding that passive or consumptive forms of learning are less effective. These learning theoretical insights deal with learning in general and are mostly not specifically tested for students in vocational education, with some exceptions (Witteman 1997; Slaats 1999). Didactic approaches in this category are mostly general educational methods, even if they are developed specifically for vocational education. The characteristic of self-directed learning is strong emphasis on the learning process, on guidance and coaching of this process and on reflection on the learning process (Straka and Stöckl 1998). An example, which is described below in more detail is the Integrated Learning Group system, developed in Dutch vocational education.

Self-directed learning makes demands on educational content in the sense that it must be possible for students to work individually or in a small group with the learning material. This implies that the material must not only contain well-formulated information, but also guidelines and support for learning methods and activities. A different structuring of learning content from traditional subjects is not necessary per se for self-directed learning and rarely happens. In most self-directed learning literature there is made a strong contra-

position between the teacher as a knowledge expert – a weak image for an inspired practitioner or representative of a discipline! – versus the teacher as a coach learning processes. This does not seem a very happy position for vocational education. In an effective learning environment the teacher should play an important role as example, model and knowledge source, with regard both to motivation and knowledge, not only declarative facts, but also procedural relations and processes and conditional knowledge (Brown et al. 1989; Lave and Wenger 1991).

Interactive Learning group System (Netherlands)

The Interactive Learning group System (ILS) is a method organising the learning process in the class room. It is used in a growing number of regional vocational colleges. The method emphasises cooperation between students in groups as well as self-regulated learning. The method also focuses on differences in learning style between students. The teacher is expected to be more of a coach than an instructor.

The method is inspired by theories of cooperative learning, active learning, learning styles, learning functions and self regulated learning (Witteman 1997). The most important objectives of ILS are:

- improvement of the learning style of students (deeper processing of learning subjects); knowledge is considered as a tool (Boekaerts 1997), which should be made operational for the student;
- improvement in self-directed learning abilities of students, for example by self-regulation activities or the execution of different learning functions (Boekaerts 1997); the method emphasises and uses differences between students with regard to learning styles;
- contribution to the social development of students (stimulation of cohesion in the class room, integration of 'black' students, experience of collective responsibility for learning tasks);
- letting students learn from each other (exchange of prior knowledge or opinions about learning subjects and about the most effective ways of learning, including different learning styles;
- enhancement of learning motivation and self-reliance of students;
- making room for other tasks than instruction by the teacher (by making students themselves more responsible);
- more opportunity for individual coaching of students;
- avoiding absenteeism by enlarging the autonomy and responsibility of students;
- avoiding a gap between the learning style of students and the teaching style of teachers.

ILS is mainly based on a model of self-regulated learning, as developed by Boekaerts (1997). In the model a distinction is made between two clusters of learning processes. Firstly, cognitive processes include subject knowledge, cognitive strategies and cognitive self-regulation. Secondly, motivational processes of the learner include meta-cognitive and motivational knowledge, motivation strategies and motivational self-regulation. In each category a number of relevant distinctions and points of attention for educational innovation are summarised. For example, subject knowledge distinguishes between declarative and procedural knowledge. Meta-cognitive knowledge refers to knowledge about the usefulness of strategies in relation to subject knowledge. Motivational knowledge refers to aspects such as self-image, professional attitude, and goal orientation in different subjects.

Classes are divided in little groups of three, four or five students. These groups are, by preference, heterogeneous with regard to learning performance, and also in relation to learning styles and regulation styles. Instruments are developed for establishing the learning and regulation styles of students. Lessons are organised in a more or less standardised way, consisting of seven steps:

1. writing work on the black board;
2. activating prior knowledge;
3. instruction;
4. groups work on learning tasks;
5. control, help and summarise;
6. diagnostic evaluation
7. testing (every eight weeks)

Prior knowledge is activated (2) by looking for a couple of minutes at what students already know about the subject and how the new learning subjects should be connected to this. Instruction (3) should not take more than 10 to 15 minutes. Groups work on tasks (4) (15-25 minutes), while the teacher coaches individual students when there are problems, or he gives help to groups. Control and summarise (5) demands that the teacher evaluates each group on progress and problems. Diagnostic evaluation (6) implies a more precise evaluation of problems, results and group processes.

More than 20 Regional Colleges have experimented with ILS, supported by external consultants and training. As an innovation process, a top-down approach is chosen. Implementation takes place at the level of management, teachers and students. Management and teachers have to attend introductory courses. Teachers need competences such as:

- skills in stimulating interactive knowledge construction by students;
- social skills in dealing with students (individual and in groups);
- organisational skills (in grouping students; in structuring learning subjects in appropriate group tasks);
- diagnostic skills
- individual coaching skills;
- understanding of (meta-cognitive aspects of) learning processes;
- understanding of learning styles and regulation styles.

When implementing ILS a number of bottlenecks occur, mainly resulting from organisational conditions: too little support and coaching; too little commitment of heads of department; too little direction from the management; not enough teachers involved in the project; misunderstandings about responsibilities; misunderstandings about communication structures; misunderstandings about availability of personal and financial means; misunderstandings about schedules; misunderstandings about the adaptation of educational content; too many (unrealistic) objectives; not enough adaptation of teaching behaviour to the method; and, last but not least, mixed enthusiasm of students.

The method concentrates on learning in the class room situation and is strongly knowledge-oriented. ILS is best if there are well structured assignments, meaning that the usefulness of the method for development of problem-solving competence for the poorly structured core problems of the occupation can be doubted.

It can be concluded that introducing a new concept like ILS is a difficult and far reaching process. Other bottlenecks are, for example: the lack of learning material suitable for group learning; the lack of case or problem-based learning material; the lack of professionalism of teachers on the topic of regulation functions for learning processes; and, last but not at all least, a lack of suitable tests.

Of course, these bottlenecks are not peculiar to ILS. On the contrary, many problems in the learning process, which remain invisible in traditional instructional teaching, become clear when working with ILS. For example, a student doing nothing in a traditional frontal instruction situation draws no attention, but in ILS this becomes visible and a target for action.

2.3 Learning for broad occupational competence

Against the structural background of changing labour markets and growing demands made by business on vocational education, more and more schools are innovating their

courses, both with respect to content (to respond to new qualification structures) and methods (to respond to the need for broad occupational competence and learning skills, to prepare students for an accelerating speed of change and a lifetime of learning).

Introducing core problems in vocational education presupposes specific contents and specific didactics (Onstenk 1997a). Occupation-based problems should have a central place with regard to content action. An holistic, multi dimensional approach to problem solving must be developed. Curricula innovation helps to adapt to new attainment norms. A serious discussion both in the Netherlands and Germany is if the attainment norms and examination regulations really fulfil these demands.

More interesting still is the tendency to try out new didactic forms to answer the need for broad occupational competence. There is an emphasis on self-directed learning, trouble-shooting and problem-solving, problem-steered learning, cooperative learning and decision making. There is also a tendency to develop stronger learning environments to reach this objective. This includes the establishment of open learning centres in many schools, with an emphasis on learning how to learn and the development of problem steered learning. This emphasis reflects both the importance attached to vocational education as a learning environment and the recognition of the need to teach students how to learn and how to acquire broad occupational competence, which can be used in a broad range of jobs and gives a strong foundation for further competence development.

2.3.1 Core problems in vocational education

In many European countries it is felt that vocational education should not be satisfied with teaching knowledge and 'technical' skills, but should concentrate on preparing pupils and apprentices for competent action in occupational practice. To achieve this, changes in content and didactics of vocational education are necessary. In Germany this has led to redefinition of vocational training profiles (*Ausbildungsberufe*), making them broader and including action competence and methodical, systematic and social-communicative aspects. New didactic forms have been developed, centring on action problems of the occupation. In the Netherlands, in the 1990s, a new qualification structure was developed and new contents of vocational education proposed, better responding to the needs of a changing economy and labour market. New vocational curricula have been developed. It is questionable, however, if the objective of delivering broad vocational competence has been reached already. The ACOA-white paper (1999) proposes to include core problems – or core assignments – in occupational and qualification profiles to improve this.

Contents should be structured to a greater degree according to core problems of occupational practice. Core problems can be handled better if the professional has broad competences. But pupils and apprentices (and starting professionals) acquire these competences more easily and better by dealing with complex and realistic occupational problems. From this perspective didactic changes in vocational education should be directed at stimulating self-steered learning, problem-solving, diagnostics and problem formulation.

One way of integrating knowledge acquisition with problem-solving and core competence development is through a focus upon core problems as a basis for building commitment to continuing learning and development. This approach is most appropriate when initial VET contains significant exposure to authentic work contexts. Core problems relate to the central challenges found within occupational communities of practice. This approach is pedagogically driven, and all aspects and activities of this approach fit with the ideas previously outlined, as they are held within the same conceptual and theoretical framework.

The common approach is underpinned by a commitment to continued learning and occupational development as a reflexive process, grounded in the importance of critical reflection as a basis for learning. The favoured approach to learning is also collaborative, with a particular emphasis on the use of problem-

based learning, situated close to the work context, so that it is possible to focus on the 'core problems' typically meant by groups of practitioners (Onstenk 1997a, b). The initial organisation of the problems fits with the idea of a reflexive collaborative learning environment making use of problem-based learning. According to Brown (1998) a didactic approach, which focuses upon 'core problems', would highlight a reflexive collaborative learning environment making use of problem-based learning such that:

- it provides authentic contexts for learning with a focus upon real (complex) problems;
- it is collaborative and dynamic, enabling learners to develop shared understanding and a sense of belonging to a dynamic community of practice, which they are helping to change and shape;
- it is participative and fosters active engagement as the learners determine for themselves the issues that need to be addressed when facing core problems; they can draw upon the knowledge and skills of others in facing these issues and also create their own learning agenda to fill any gaps in their knowledge and understanding;
- it supports learning which is highly relevant, because the learning is focused upon issues which are perceived as pressing by practitioners;
- it gives (possibly isolated) individuals the opportunity to think through problems as part of a team;
- it supports the development of creative and flexible approaches to problems;
- it supports the development of contextualised critical learning;
- it supports reflection on and review of the learning process as well as of the outcomes.

Reflection on core problems can give insight into current practice and provide ideas as to how a student or practitioner might tackle similar problems in future. Such reflection is critical in two respects. First, it is necessary if learners are to look beyond current practice and to help shape how such problems are tackled in future. Second, it can act as a stimulus to creativity and innovation, not least because the learners have learned the value of applying a reflective approach to the development of their own practice and expertise. Such an approach not only increases the likelihood of significant learning, it also provides a framework for subsequent continuing professional development in which it is likely that processes of new knowledge creation may be facilitated. In this sense it helps those that are learning within vocational education to feel they are moving towards assuming a full position within particular 'communities of practice' (Lave and Wenger 1991), and a subsequent continuing commitment to explore, reflect upon and improve their professional practice (Schön 1987).

One way of raising the intellectual demands is to make use of problem-based learning where the focus is on core problems of groups of practitioners (Onstenk 1997a), acknowledging the contribution theoretical concepts can make to assisting individuals in understanding what they are doing and why work practices are subject to change (Engeström 1994). This, of course, also places a burden of proof on theoretical subjects. In a competence-based curriculum theoretical knowledge must be shown to be of use in dealing with core problems. Core problems in vocational education can be used as a facilitator of both practical and theoretical learning (Onstenk 1997a; Brown 1998) 'Theoretical learning' is also developed through applying the concepts for analysing the problems that arise for professionals at work and for making explicit the assumptions underlying existing practice (Guile and Young 1996). This conceptual knowledge can then be used to underpin reflection on practice at a deeper level than just 'theorising' practice. Such conceptual knowledge can have both explanatory power and be applied to (changes in) practice. It therefore complements the development of practical learning, based on reflection on practice. Crucially, however, the development and application of theoretical learning also facilitates a forward-looking perspective: enabling thinking about how practice might be devel-

oped in future. Indeed, a base is laid whereby the subsequent application of the processes of research, review and reflection in new contexts can lead to the creation of new forms of knowledge (Engeström 1994). The use of core problems within vocational education can according to Brown (1998) act as a springboard for the:

- exploration of and reflection on professional practice;
- development of skills, knowledge and understanding (of critical reflection) necessary to evaluate and review professional practice;
- need to understand processes of change (as practice increasingly takes place in complex and dynamic contexts);
- ability to create new knowledge;
- development of theoretical knowledge to underpin and complement reflection upon practice;
- study of the interplay between theory and practice;
- need to be able to transfer skills, knowledge and understanding from one context to another;
- ability to handle complexity and interconnectedness of issues (including through the formulation of mental models, schemas or networks);
- development of contextualised understandings;
- translation of understanding into action, as appropriate;
- further development of communication skills.

2.3.2 Problem-based learning

There seems to be a logical relationship between new demands made of practitioners, with regard to problem solving, work planning, systems thinking and self-directed action and problem-based learning. This means building curricula around occupational relevant tasks and problems. In many much use of new media is anticipated for problem-based learning.

The concept of problem-based learning is strongly connected to vocational education and preparation for vocational practice. Constructivist learning psychology is also very important for this approach, but some other lessons are taken from it. Whereas self-directed learning focuses on regulation, monitoring and meta-cognition, problem-based learning focuses on learning in real contexts. For vocational education this is a very useful insight, because the context is clearly definable in occupational practice. In most cases group work is promoted as cooperation – an important aspect of real work settings. Problem-based education can, in this respect, be considered as a kind of simulation of occupational practice. This kind of education puts heavy demands on the content aspect of the curriculum. Although it is not impossible to work with problems coming from one subject, there is a strong preference for subject integrative and thematic problems and projects.

Problem-based learning in the Netherlands

Actual developments in the Netherlands show that teachers and program developers are responding to this need and are looking for new ways to teach and to develop vocational education as a strong learning environment. Next to promoting self-direction in learning, emphasis is laid on the acquisition of occupational competences. A precondition for this is that, in the educational setting, the student can deal with actual and complex occupational problems. There are different forms of Problem Based Education (PBE). The Main characteristic of these approaches is the fact that learning takes place by dealing with realistic vocational problems. In all cases these are taken from actual occupational practice, but they differ very much in the way they are formulated, the level and the complexity.

PBE is not, in fact, a new educational form at all. Inside and outside secondary vocational

education attempts have been made many times to motivate students and to improve their learning through problem-based education. Dutch higher education has years of experience with problem based-education. It started in higher medical education at the University of Maastricht (Schmidt and Moust 1998). This approach, mostly referred to as 'the Maastricht model', has been adopted in higher and secondary vocational education. The Maastricht model has a number of characteristics which recur to a greater or lesser degree in vocational education. (Part of) the learning subjects is treated in tutor groups of 6 to 12 students, in which is worked on specific tasks. A distinction is made between several kinds of tasks (study tasks, problem tasks, discussion tasks etc.). A model approach of working in groups is developed, known as the 'seven steps jumps' (seven steps jump), consisting of seven steps to be taken while working on a problem:

a) step 1: clarify unclear terms and concepts;

b) step 2: define the problem;

c) step 3: analyse the problem;

d) step 4: make a systematic inventory of different explanations, resulting from step 3:

e) step 5: formulate learning objectives;

f) step 6: look for extra information outside of the group;

g) step 7: synthesise and test new information.

A school year in PBE is divided in a number of blocks or modules, mostly lasting 10 weeks. Each block is structured by a so called block book, which can be seen as a combination of study guide, work plan and learning material. The book contains objectives, planning and description of tasks, case situations and problems to be solved, tasks students should do, products to be delivered and (sometimes) suggestions for extra information sources. Students work in small groups of 10 students, so-called tutor groups. Tutor groups work sometimes with coaching of a teacher (tutor) and often without coaching. In PBE different kinds of tasks are distinguished; the problem task, the strategy task, the study task, the application task, the discussion task, and the project task. In the tutor group, one student takes the role of chairman and another student the role of reporter.

It is remarkable that the 'Maastricht model' focuses on a systematic method to deal with learning and study tasks and to build learning groups, but pays little attention to the actual problems themselves. The detailed distinction in kinds of tasks says very little about the contents. In practice this means that many schools themselves make tasks and assignments and structure the curriculum in blocks centred on these assignments. Of course this means a lot of work, and often leads to big differences in approach and quality (Moerkamp et. al., 2000).

2.3.3 The 'block books' approach for the building engineer course (Netherlands)

Recently a very interesting concept of a course design based on problem-based learning was developed in the Netherlands. It is called the 'block books' approach, block books being a series of booklets – and more recently CD-ROMs – which outline the curriculum for a block of five to eight weeks and which include assignments, problems and learning material. This approach, although inspired by the Maastricht model, shows some significant differences. It was designed for the level 4 course Building Engineer. In 1999/2000 this approach has also been elaborated for courses in road construction, electrical engineering and engineering. The development of the block book concept is closely related to the introduction of the new qualification structure and to changes in occupational practice. The project is strongly supported by the social partners. There is even pressure on higher vocational education to adopt the same methods.

The course for the building engineer was restructured at the beginning of the 1990s, when a new curriculum was developed, which was centred around problem-based education and the acquisition of executive skills (*kader-*

vaardigheden). In 1994 the organisation of vocational colleges (BVE Raad) installed a learning plan commission, which analysed research results on the future of building jobs and on the evaluation of companies of graduates of vocational education. It turned out that there were not that many new 'technical' things required as most companies expressed a great satisfaction with existing education. This, however, was not true for organisational, communicative and executive competences. These were not represented in the old curriculum. A project group of teachers, dealing with this problem, decided that executive skills (mainly planning, problem solving and communication) should be closely connected to technical knowledge and skills, as any other way would not be effective and motivational. Integration was also supposed to lead to a reduction of the number of different, isolated subjects. Students should not experience the course as a accidental series of subjects, but should be enabled to see a clear connection to real occupational problems.

Objectives

The objectives for the newly-designed MBO-course for building engineers and middle management are defined as technical, organisational, personal and communicative.

In the first place, an adequate technical level should be reached, as laid down in the attainment norms, including specific attention to environmental issues and quality of work in the building site. In this respect the project can be seen as pro-active education, where improvement of occupational practice is an explicit objective. The project was supported by sectoral organisations in the field of environmental care and work quality.

In the second place personality development (and organisational competences) was made an explicit objective. This included being responsible and autonomous working – being able to take the initiative, take decisions and bear responsibility for them. In the third place, attention is paid to communicative aspects. Practitioners must be able to function as a member of a group. They must be able to accept and understand each other, to communicate openly and to bear responsibility for collectively taken decisions. They must be able to work together and to solve problems and conflicts in a constructive way. They must be capable of taking decisions. Finally, motivating aspects received much attention, through thematically clustering knowledge and skills. Technical, personal and communicative skills were transformed in learning objectives.

The objective of this approach was to contribute to student competences in taking autonomous decisions and bearing responsibility for them. The student has to develop initiative and analyse problems from different angles, systematically and structurally solving them. He must learn to work in teams and to deal with people. So he needs to develop communicative skills. On top of that he must learn how to be responsible for the environment and work conditions and make these issues an integral aspect of his work.

It is recognised that a student can only accomplish these tasks if he thinks lessons are attractive and if he becomes optimally motivated. Integration of subjects, a concentric building of blocks, variation in didactic methods and attention to management skills in a well-designed combination will have to achieve this and lead to the expected results.

Emphasis is put on the training of the student as a future practitioner who, in complex situations must act independently, must take decisions and defend them and who must be able in this process to make reference to different arguments and view points. The student must learn to take societal demands with respect to environment and work quality into account. It is expected he can take autonomous decisions in important aspects of the occupation as the vocation of building engineer is characterised by a great number of different visions and view points. The principle of self-directed learning is seen as including the recognition of the right of students to explore independently this field of visions.

Approach

A structured and detailed learning plan was developed. From the beginning the student

focuses on the occupation of building engineer. The emphasis is put on a holistic representation of the building process, which is presented in a series of concentric projects (from simple to more complex problems). This replaces the old way of designing the curriculum, which started with an extensive module on 'foundations', while the rest of the building only followed much later on, even the next school year. A second important principle is that in the selection of learning subjects emphasis is put on a 'deep' treatment of specific topics (like a building system, material or technique), and the development of a systematic problem solving approach, rather than treating all systems, materials and techniques superficially or only on the knowledge level. A third principle is that the emphasis is put on learning how to search for the information needed, rather than on an integral presentation in a learning book of all information needed to solve the problem.

The core of the problem-based curriculum is formed by a series of assignments, which structure the learning process in case form. A typical case takes about 30 study hours and is executed in a relatively short period of 5 weeks. There is a global time schedule: 2 hours of deliberation; 6 hours of instruction (delivering information relevant for the case problem); 13 hours of execution (self-directed work by students); and 6 hours of practical instruction and exercise. Students work in small teams (6-8 students). There is a project per semester, divided into a number of blocks. At the end of a project a presentation is given to fellow students, but sometimes also to companies or parents.

The case are presented to the students in a series of 'block books'. The series is constructed from simple to more complex assignments, but they are all complete projects (building assignments). Apart from the building technical work there are other aspects to be taken into account, for example environment and work conditions.

In block book 0, problem-based learning is introduced to the student and the most important competences are described. It is emphasised that a report must be given of the group process and that the execution of the project is considered as a role play, in which roles in the real building team are simulated.

For assignments in the field of building design, students are given a list of specifications. They then have to design, draw and specify the solution. The evaluation criteria are realistic: it must be possible to actually build the design. In assignments in the field of execution students are given materials and drawings. By choosing their own methods they can make it their own project. The block books for the first year deal with a garden house. Apart from the, relatively simple, building technical requirements, students also have to take other aspects into account, for example public planning and building regulations. Alternatively, they have to design a bridge master's house, taking into account building technical issues, but also water resistance and management issues.

Didactic methods

The learning plan distinguishes a large number of didactic models and methods: lecture and lesson; teaching-learning conversation; cooperation in a group; role playing; practice and exercise; task; excursion; computer supported education; self study; execution tasks. Execution tasks, part of the case, integrate different school subjects. In a real building problem, several disciplines are necessary (i.e. building technology, building administration, drawing etc.). Also several learning activities (including the seven step jump) and types of task are distinguished, based on the Maastricht model.

Much attention is given to the structure of assignments – preparation, planning, approach, execution the assignment, control of product and process – and also to the degree of structure (which diminishes in the course of the semester).

Learning how to learn is a central point of attention. In the recommended didactic methods the development of a systematic way of working is by using the *Leittext*-method. In this way the ascending degree of difficulty of learning subjects is made manageable for the

student. If, for a specific problem, there is more than one acceptable solution or technical approach the student is made aware, during the orientation phase, of the existence of the technical possibilities. For example, in building a house there are four basis techniques: hard skeleton; piling up bricks; concrete elements; and concrete foundation. One method is chosen based on the list of specifications and requirements as specified in the assignment. This implies arguing why this method (and not another one) is chosen and elaborating how the method works in this case. In principle, all methods should be used across the whole class. Students acquire in-depth knowledge of one method, but are aware of the other possibilities and have developed a systematic way of dealing with the other methods when, in later practice, they come to use this method. In this way students develop the learning competence required to acquire other methods in occupational practice, when necessary.

It is emphasised that this kind of learning and teaching makes heavy demands on the design of the classroom and the learning material, and on teaching and coaching styles. Students work on their assignments in small groups, so a spatial structure must be adapted to make this possible. The traditional image of a class changes and becomes much more varied and noisy. Students work on different projects and not every group works at the same speed or in the same order. So the teacher has no detailed understanding about the exact topic or progress of each group. He can be faced with divergent questions about objectives, information needed, problems and bottlenecks. Although he is not supposed to solve the problem, but rather help students by pointing them in the right direction, stimulate thinking and reflection or suggest information sources, this does imply a great need of active knowledge. And he has to learn how to give strategic support, rather than giving the 'right' answer.

Communicative aspects

In problem-based education, much attention is given to communicative aspects as orientation. This involves: group responsibility; reacting with others; organising cooperation; taking decisions; facing and analysing problems; solving conflicts; result-oriented work; and splitting up of a group. The group process is explicitly made the object of reflection and learning. An observation form is designed, which students can use to report on the group process. A list of criteria has also been developed to evaluate and judge the group processes. Students can have different group roles, with every student being chairmen or group secretary a number of times. Recently the role of observer has been added to the curriculum: a student has to observe the group processes and report about them, using the observation form.

2.3.4 Learn work tasks in 'Schwarze Pumpe' (Germany)

In Germany, the model projects *(Modellversuche)* approach has produced a number of new didactic approaches aimed at action competences *(Handlungskompetenz)*. So there are new ways of promoting learning on the job *(Lernen am Arbeitsplatz)* and action-oriented educational design *(handlungsorientiertes didaktisches Modell)*. There are several examples of this, mostly focusing on problem- or project-centred curriculum designs (Dehnbostel and Walter-Lezius 1995).

A fine example is the pilot scheme *'Schwarze Pumpe'* [black pump] (Heidegger 1997). This project aims to give students in vocational education a double qualification, that is both oriented towards skilled employment and provides access to higher education. It can be considered as an attempt to find effective responses to challenges resulting from the changing needs and culture of working life and industrial work. It also looks to respond to the differentiated modernisation processes of the VET system by striving for integration of vocational and general education, enrichment of vocational learning and integration of work and technology. The course is designed to promote action- and shaping-oriented learning (Höpfner 1995). Heidegger (1997) stresses that:

'Integration of general and vocational education does not mean an enrichment of voca-

tional education by making it more like general education. On the contrary the objectives of general education are pursued in the vocational learning process itself. This implies improvement of vocational learning by developing a central, didactic principle for the integration of numerous competences (relating to the subject, methods, learning and social skills) through real work tasks/processes.'

The distinctive feature of this pilot scheme is the introduction and elaboration of the concept of 'integrating learning and work tasks' (*integrierende Lern- und Arbeitsaufgaben*). These include both occupation-specific and more generic competences, contributing to the development of knowledge and skills which enable shaping-activities and support an integration of school and company and cooperation of teachers and trainers (*Lehrer und Ausbilder*)' (Höpfner 1995). The aim is to bridge the gap between 'learning by working' and 'learning by theoretical understanding' by using integrated methods of learning itself: the competences needed for work-processes have to become subject to theoretical understanding and both scientific theories and communicative and organisational competences must be used in the work process in which learning is organised. Therefore the curriculum consists of 'integrated learn- and working tasks' which offer a wide demand of 'open' solutions the students have to find even such which seem to be 'off-standard' (as a result of individual *Gestaltung* [shaping]). By using this kind of task, methods of self-directed learning are promoted. One central curricular idea is that general knowledge and skills should be generated from solving occupationally relevant problems and assignments: complex and rather open-ended tasks with no set routes to follow, thus providing opportunities for exemplary, integrated learning. The aim of the scheme is to promote or shape the trainee's capacity for competent and self-determined action.

'The concepts in the didactic thinking are signified by the German terms *Gestaltung* and *Mündigkeit*; neither of which are easily translated to English. *Gestaltung* refers to the process of shaping and *Mündigkeit* to moral authority or self-actualisation. *Gestaltung* is conceived as a dialectic process between freedom and predetermination, between planned and ad-hoc/situated actions, between conscious and spontaneous actions in which plans, emotions and creativity are involved. Human activity is moulded by reason and emotions and guided by values. In this dialectic paradigm the duality of reason and emotion is transcended.' (Heidegger 1997)

The training takes place both in an enterprise and at the secondary vocational school (*Fachoberschule*). By using integrated tasks the two learning arenas can supplement and enrich each other.

What students and teachers or trainers have to learn/to teach is prescribed; the way (how) to do this, and by what means, is an open choice and decision, taking into account the range of individual possibilities of learning and creating conditions of learning by groups of pupils, etc. Although students are not free in choosing their subjects, they are free to choose the organisational framework of learning and working: they are given the tasks and have to find the solutions within a defined time. They have to make use of those methods which are demanded by the task, including making use of knowledge beyond their immediate experience, so they work with textbooks, using the facilities of the enterprise/the school including computers, libraries. A full integrated assignment ends with a media-supported presentation of the result, including the problem-solving process. Teachers or trainers provide information on request, directly or by offering a 'classroom session' to give concentrated support. Roles both of students and teachers/trainers change. The latter have to spend more time in preparing the integrated learning and work tasks, but less while the students are learning and working, as students are controlling the kind and amount of the demanded 'input' teachers/trainers are asked to give.

Not all teachers are happy with this. They seem to think that in order to accomplish more general, cognitive goals, teaching is necessary, even while acknowledging that practical projects are probably a better way to prepare for work. Apprentices have a need for, and are

interested in, successful teaching. They judge mostly both 'project' or 'teacher centred' intervention to be a success. Some of the teachers and trainers are sceptical. They doubt, that such successes support performance in the final examination. They talk about the need for a 'healthy mixture', meaning that 'teacher centred' teaching has to play an important role to ensure that the aims and the syllabus will be met. They still believe that only this kind of teaching can ensure an assessable 'success'.

The apprentices prefer the company learning location and favour successful projects rather than teacher-centred teaching. Some teachers and trainers limit the success of learning and working tasks to a certain class of aims. In that sense, 'project work' can only be successful in relation to 'independence', and 'team and communication abilities'. The actual, mainly cognitive, aims of teaching still require teacher-centred teaching. This indicates a split of educational aims that should be pursued together with the following attribution to the different approaches: you need 'teacher-centred' teaching for the qualification aims, and 'project' teaching for the key qualifications.

Heidegger (1997) emphasises that this is counter-productive, that a 'division of labour' between approaches destroys the educational standards of both teaching methods. This is also indicated by suggesting that it is the job of the school to prepare for cognitive testing and the company to prepare for work (and testing of the vocational demands as established by the Industrial Chamber of Commerce (IHK). In that sense, in the actual project, some learning and working tasks have been carried out, without integrative character. This, according to Heidegger, is probably the reason that some apprentices had bad experiences with 'action orientated instruction' *(handlungsorientierter Unterricht)*. The occasional criteria of school projects seem to show a complementary relationship between the reports of teachers and apprentices. On the one hand, apprentices are complaining about chaos during work and the fact that no one really knows what to do. On the other hand, the teachers expected more independence, energy and ideas from the apprentices.

Heidegger (1997) also identifies another typical problem for innovative didactic designs (cf. Klarus 1998). The application of methods of self-directed learning which are stimulated by open, both scientifically and vocationally described problems of working and learning raises problems with regard to evaluation and examination.

'The effects of learning something non-standardised cannot exactly be seen either in the results or in the behaviour of the student. So they have to be asked about their processes of learning and their work-experiences. This must be part of the evaluation. In advance ILWT are designed according to the extent to which they possess the potential for shaping and how realistic – related to the existing capabilities of the students – it could be to expect the students to be able to find rational solutions. Afterwards not only the results but also the experiences both of the students and the teachers are subject to the research process. In addition by analysing the content of the students and teachers answers and comments on their reflections upon what has happened during learning and working, this will indicate some of the differences between conventional training and learning and the effects of the new methods which include a higher level of reflection because this is itself an important aim of "Bildung"'. (Heidegger 1997)

A very important point is the need for congruency between teaching and testing. In *Schwarze Pumpe* – and many other educational innovations (Onstenk et al. 1999; Klarus 1998) – lack of congruency prohibits fully integrated learning processes. Only an integrated assessment based on the work done in both educational routes would give an acceptable basis for testing.

'That would give the apprentices the opportunity to prove their abilities, and show that they have gained by solving learning and working tasks. As long as these are considered not relevant for testing, the conflict stays, that forces teachers and students to a schizophrenic interpretation of the results of the model project. You learn quite a lot, but nothing of relevance examination. Testing is not only for the control of the learners, but also

for the teachers. If the testing conditions are not extended by the specifications of the model project, learners as well as teachers have to stick to conventional measurements of success.' (Heidegger 1997)

The German pilot project demonstrates that different ways of learning can only take effect if the examination tests are relevant for the new contents and methods. On the one hand all authorities have to agree to this and, on the other hand, teachers of general and vocational education need new, different qualifications, i.e. they need integrated qualifications too.

The progress of the model project is able, from its logic, to clear up the described misunderstandings about construction and implementation of learning and working tasks. But it is not able to clear up the deeper problem of devising an acceptable assessment regime that supports an holistic approach to learning. This depends on changes on a broader level and a redefinition of vocational educational objectives.

2.3.5 Learning-acting in a simulated company (Germany)

Another German example is to be found in the work of Achtenhagen (1999). An educational environment is designed, taking into account principles for teaching-learning arrangements which should promote learning-acting *(Lernhandeln)*. It provides the opportunity for learners to experience relatively complex facts and problems which can be related to 'reality'. Teaching should explicitly take into account both prior and everyday knowledge and the interests of students. It starts with a complex goal and content structure which can serve as advance organiser. Teaching concentrates on the introduction and extension of terms and concepts together with their intention. Here, the decisive point for successful decontextualization is given. The teaching-learning processes fosters a clear and distinctive action and activity orientation. Knowledge should be gained by solving meaningful problems.

Achtenhagen stresses that for the development of adequate mental models, learning tasks must be accessible and open to the experience of students. A possible conflict between casuistic and systematic procedures has to be balanced by using a combined systems- and action-oriented perspective. Instruction should also foster a metacognitive perspective: by 'learning about the models used' the conditions, necessities and restrictions of the arrangements and environments should be thematized and reflected. Teaching and learning should be related continuously over longer sequences to concrete, realistic tasks and problems which have to be selected or constructed with regard to the needs of goals and contents to be taught and learned.

An introductory period for an industrial clerk apprenticeship *(Industriekaufmann)* in the sectors of business and commerce was designed as a complex teaching-learning arrangement by modelling a virtual enterprise, based on a real enterprise and represented on a CD-ROM. The curricular goals and contents were an introduction into an enterprise as complex economic and social system. The unit should provide knowledge – declarative as well as strategic – that could be used within the following three years of apprenticeship in the commercial part-time school (1-2 days per week) as well as in the individual enterprises of the apprentices (3-4 days per week). The educational goal was to support the learning processes of the apprentices in such a way that they reached a better understanding of the teaching-learning processes in the *Berufsschule* [part-time vocational school] and that they acquired categories which enable them later to identify similarities and differences with regard to the work processes in their individual learning firm – which, of course, are different to those communicated by the virtual enterprise as experienced in school. By this procedure, apprentices have the opportunity to critically analyse their work processes, but also to scrutinise the topics taught in school.

The construction of the virtual enterprise and the corresponding teaching-learning processes take into account several questions. The first question deals with the structure of knowledge to be taught and learned. In answering this, a systems-approach of business

theory was used, focussing on business processes. Within this context declarative, but also strategic, knowledge could be defined. The second question deals with individual learning conditions and prior knowledge of the apprentices. In the field of business and commerce, apprentices of very different ages and prior schooling (e. g. 9 years or 13 years with *Abitur* [higher education entrance qualification]) are frequently placed in one classroom. This diminishes the learning chances of those apprentices with lower academic schooling as, according to Achtenhagen (1999), traditionally teachers will run their instruction according to the progress of the 'upper' part of their classrooms. As a result, apprentices with lower school socialisation have less chance of fully exploiting school instruction, or of acquiring terms and concepts for better understanding of work processes in their firms. Therefore, the project runs according to a mastery learning approach by trying to bring all apprentices to a 85% mastery level by an eight week period of introductory instruction, in order to provide a basis for the concluding teaching and learning processes.

A third question deals with selection and structure of goals and contents. All situations and information on the CD-ROM followed the principles of action-orientation and learn-acting; they were organized according to a systems-approach of business theory focussing on a process perspective and a client-orientation. The virtual enterprise and the corresponding material were developed according to criteria out of the German didactic discussion, but also using US-American approaches. Narrative episodes were constructed with the stimuli for the exploration tasks and the solutions, but also provided information sources via aerial views of the whole (real) enterprise, an organisational chart, video clips demonstrating production processes, interviews with clerks and workers, and computer screens with relevant information (e.g. goods in stock).

All these scenes were filmed within the real enterprise. The apprentices had to collect all necessary information for solving the exploration tasks – though no linear solution was possible. The CD-ROM contains more information as necessary for the solution of the two main exploration tasks. It can also be used, therefore, in later phases of instruction. The learning time was free: in the classroom, at home and in the firm. Apprentices who solved the tasks earlier than their classmates got additional tasks (also represented by other media). All apprentices had to bring their solutions of the different tasks to the next lessons where they could be evaluated.

A last, main problem is how to enlarge the complexity of the tasks in a controlled way. The sequence starts with an exploration task. A client asks, 'When can you deliver?' After the solution the apprentices are given additional tasks. Then they have to solve a second exploration task: four weeks after the first call, the client says that the promised delivery did not arrive. The apprentices have to go through the whole system – a total quality management procedure – to check the steps of production and delivery. This corresponds to the rules set by the real enterprise. After that a third exploration task is given: the apprentices have to solve the tasks first given in the CD-ROM in their real enterprises. That means: going through the enterprise, following its network structure, interviewing the employees involved, evaluating the solution and then presenting it to the school class. The acceptance of this procedure is very high: the firm instructors come to the school to attend the presentation of their firm in the vocational classroom. Here, we can find observations on the differences between the proceedings used in the virtual enterprises and the business processes in the real enterprises.

3. Redesigning VET: prospects, problems and policies

Curriculum content and didactic methods in vocational education have been challenged on several levels. There are new insights in learning and instruction. Students ask for differentiated approaches with regard to backgrounds, characteristics, interests and learning styles. Societal developments make new demands on (future) citizens (Onderwijsraad 1998). Content and design in vocational education are also challenged, more directly than

general basic, secondary or higher education, by developments in organisations and occupations. Practitioners must be able to select and interpret knowledge and information. They must be able to solve problems, to plan and cooperate. In short: they need broad professional competence.

There seems to be some synergy between these demands. Didactic and learning theoretical insights, as well as motivational and learning styles of students and new demands on the job, all seem to ask for didactic approaches, characterised by an emphasis on self-directed learning, development of problem solving competences, tailor made education and individual coaching and guidance, rather than frontal teaching in a class room or simple 'watch and copy' in a work place learning situation. This synergy gives an important push to innovations in the educational process and has led to, sometimes drastic, changes. In many European countries, schools and companies are experimenting with new models and objectives. Europe, or at least the countries presented in this chapter, demonstrates a whole array of innovative actions in vocational and continuing education. Some are successful, some not; some interesting and deep, others slow or superficial. Countries differ in the amount of steering and stimulation given by the government or social partners. In Germany there are guided and supported innovation programmes, whereas in The Netherlands (and most other countries) educational innovation is not centrally steered or planned, with the exception of defining new targets and stimulating the use of ICT.

3.1 Broad professional competence

Vocational education should give students a better preparation for working life and lifelong learning. In order to reach that objective, qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

It should be emphasised that new jobs and labour markets ask for a broadly conceptualised set of competences, to enable workers to find work and to perform adequately in different and changing work situations. The substantive component of skill remains essential, even more so in a flexible and insecure labour market. But it will have to include the will and ability to expand and develop competences, including the development of new competences and possibly the abandonment of old ones. Workers are supposed to take responsibility for their social work unit, be it team, company or professional group and to contribute to the optimisation and change of the work process. This in itself opens up powerful opportunities for learning. But it also demands a broad professional base to build on.

To cater for this, vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Most forms of vocational education and training include a larger or smaller element of training that does not take place in the classroom, but in a practical setting or a practice-replacing setting. Empirical research into learning processes in practical learning stages in Dutch secondary vocational education (Onstenk 1997b) shows a rich bundle of learning effects that can be achieved in practical training and learning. Practical learning periods can contribute to learning how to deal with the core problems of the occupation and the acquisition of (elements of) broad professional skill, like planning, co-operation and working in a team (cf. Dehnbostel and Dybowski, 2000). Alongside the characteristics of the job in terms of content and work environment, the role of coaches and mentors, both in the company and the school, are very important.

Transfer can be stimulated through close connection between occupational practice and training in and out of school and by concen-

trating on instruction and training of developing transfer skills, reflectivity etc. Development of concepts and procedural knowledge should place a strong accent on the vocational curriculum. At the same time, this curriculum should be structured according to the logic of occupational practice rather than the logic of school subjects or disciplinary knowledge. This does not mean, however, a blind adaptation to actual existing practices. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further development of the profession.

3.2 Dilemmas in didactic innovation

New educational forms also have to make specific choices with respect to learning. These choices must be based both on objectives with regard to learning (i.e. learning to learn in different ways and situations) and on a concept of an effective learning environment and an evaluation of different aspects and possibilities for learning (educational, didactic, psychological, sociological): how do students learn and what is the most effective form of learning; what is expected of practitioners and how can students be best prepared for that; how can the educational process be organised to make flexibility and tailor-made instruction possible?

In making these choices dilemmas occur and trade-offs have to be made (Collins 1996). A few of these can be are identified here.

A first dilemma is posed by the question of whether emphasis is to be placed on the acquisition of learning skills versus an emphasis on content. When discussing employability, lifelong learning or core skills it is tempting to stress the acquisition of general learning – and study skills. These skills seem to have a life time value, whereas specific skills sometimes are already considered to be outdated the day they are taught. At the same, time it is suggested by learning theory that content is essential for learning. Even apart from the value of specific skills for doing the job, learning skills are developed best while learning specific, interesting and relevant subject matter.

A second dilemma deals with the role of the teacher: should he be an expert or rather act as coach? This dilemma is closely connected to the first: if learning skills are emphasised, the teacher disappears as a source of knowledge and as an expert. Teachers are mainly called for their pedagogical and didactic qualities (sometimes emphasising the need to fade!) and for their skills in coaching students in self-directed learning. This tends to ignore the important role of a teacher or (in apprenticeships and practical learning periods) a coach or work instructor as a source of knowledge, but even more importantly as a model and a guide to the community of practice.

A third dilemma faces the choice between broad (and much) content versus deep (and selective) content. From the perspective of occupational preparation, there is a temptation to put as many aspects as possible in a curriculum. Students have then acquired at least some knowledge of everything. This seems, however, not very realistic, looking at the growing amount of required knowledge and skills and of the speed of change in required knowledge. But 'going deep' is a better option also from a learning theoretical perspective. Deep knowledge of specific themes (instead of superficial knowledge of many subjects) should in that case be combined with acquisition of transfer skills.

A fourth dilemma juxtaposes thematic structured content with logical and analytical structured content. There seems to be, in school-based vocational education, a clear shift from a subject based approach (logical-analytical) towards a more thematic or problem-based approach. From the learning theoretical viewpoint this shift is understandable and beneficial: themes open up a better entrance to the integrated and complex reality of vocational practice. The danger of a strict emphasis on a thematic approach is a tendency to strong pragmatic and solution-oriented knowledge and skills, acquisition of underpinning knowledge, but also reflection and deep understanding of processes, can be threatened.

A final dilemma has to do with the definition of the student as a starting practitioner as opposed to defining the student as a student. Working with real occupational problems, cases or projects in a small group of co-operating students can be promoted with a reference to occupational practice. Learning in school is organised as much as possible to resemble vocational practice. This can lead to a neglect of the needs of students, both with regard to their needs as learners and as human beings and future citizens (lack of developmental value and citizen-competences). And not all vocational practice is characterised by a team or project-based work structure. Some (technical) occupations can be much more adequately analysed this way than others. For example, in nursing jobs the focus is much more on a daily cycle of returning activities, which quite regularly are disturbed by 'incidents', caused by the unpredictability of patients or the contingencies of the organisation.

These dilemmas could be seen as perennial dilemmas of teaching and training. It is not possible to make a 'good' choice for all times and situations. Dilemmas are inherent to learning processes, in principle always present and in that sense not solvable. Simons (1998a) speaks of the core problems of teaching. A good new approach would take this kind of dilemma into account.

3.3 Policy Objective: competence development by didactic innovation

Many companies and colleges across a number of countries are experimenting with self-directed learning, problem-based learning and/or open learning, sometimes in combination. Although many approaches are still at the experimental stage, some have already become working models. Schools and companies are looking for ways to build into the curriculum new insights with regard to didactics and with regard to required vocational competences. Two focal points can be distinguished. The first is an accentuation of (learning to) learn and study: the development of the self-directed student. The second is an accentuation of learning how to solve problems: competence development of the self-directed professional.

With regard to the first objective, there are numerous activities, sometimes based on or accompanied by scientific research and concept building, dealing with learning styles and the development of learning skills. With regard to the second objective, attention is paid to establishing attainment norms, based on occupational profiles, and to the design of educational settings for competence-oriented problem-based learning. These are not contradictory objectives – on the contrary. They are, however, also not identical, and ask for specific didactic strategies. Many projects and experiments in vocational education are limited because they centre on one of these objectives, often while stating both. But in order to reach both, vocational education needs an integration and interaction between the development of the self-directed student learner and the development of the competent and self-directed learning and working practitioner and flexible problem solver.

I have made a rough distinction in vocational educational innovations in school between self-directed and problem-based learning. In all new educational forms the student gets a more active role and the role of the teacher becomes more that of a coach of learning processes. But there are big differences in the accentuation, for example, with regard to the question of what a student is supposed to do and how he is supported in that. Also, they differ with respect to the objectives for lifelong learning. Self-directed learning emphasises the acquisition of learning skills and learning motivations which are expected to contribute to learning later in life. However, in many cases this is restricted to learning in formal educational settings (Simons 1998b). Problem-based learning contributes to competence development by focusing on learning how to solve occupational relevant problems in realistic settings.

Open learning is often mentioned as a third major theme of innovative vocational education. Open learning focuses on the creation of new learning offers and environments, and on the skills required to take advantage of these new possibilities. Since such an offer is available later on this approach can be expected to contribute to lifelong learning. Open learning

is stimulated by the growing possibilities offered by ICTs. ICTs, indeed, can be used to support both strands, but can also reinforce more traditional forms of education (Simons 1998a). Both in the Netherlands and across Europe, much emphasis is placed on the introduction of new technology in vocational education. Although ICTs and didactic innovation are often linked together, it could be argued (Euler 1994; Collins 1996; Onstenk and Meijer 1998) that much ICTs reinforces instruction-driven education, mostly in order to promote more flexible forms of delivery, rather than self-directed or problem-based learning. This is not to deny that ICTs can be a very powerful tool to promote self-directed learning or to support students in competence development and in learning to cope with occupational core problems. But a clear concept of self-directed and problem-based learning environments is a precondition for effective use of these tools.

It must also not be forgotten that, in most countries, many vocational schools or training companies still use a traditional approach, based on instruction and straight forward knowledge transmission. For the Netherlands, the Education Inspectorate (Onderwijsinspectie 1998) concludes that educational practice in most cases is still mainly traditional, despite the interest of teachers in more varied didactic forms. The task of responding to all new content and didactic demands is still a heavy load for many teachers. In daily school practice there is a huge gap between what society would like to see as didactic innovation and what seems to be possible in the actual class room. There are no indications that this situation is very different in other countries (see, for example: Kämäräinen and Streumer 1998; Brown 1998).

By way of conclusion some recommendations could be formulated.

Vocational education should give students a better preparation for working life and lifelong learning. In order to reach that objective, qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

Vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational core competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Discussions on standards for performance and possible development paths taking into account societal and environmental norms and values, should be an integral part of an analysis of competences, and also be included in the objectives and design of vocational education. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further development of the profession. Vocational education can have a pro-active role and support innovative work practices.

Development of innovative didactic processes and quality improvement of VET should be a priority in VET policies. Innovative competence-based education asks not only for a detailed and rich analysis of competences, but also for design of a strong competence-oriented learning environment. A specific challenge is the inclusion in school-based VET of designs to foster the learning of how to act in complex job situations and solve problems into actual work settings. New designs for problem-based learning should be developed, tried out and disseminated.

In most European countries attempts have been made to reduce the barriers between schools and work as learning sites. Innovation in VET should focus on the inclusion of work-based learning by establishing quality criteria for work based learning places and by designing curricula which integrate learning places.

Programmes and instruments for accreditation of prior learning have been developed in several countries. Interestingly enough, the

development of new ways of evaluating competences in vocational education has itself lagged behind. Traditional ways of testing knowledge (ie. by multiple choice or paper and pencil test) are often still dominant. This theme needs specific attention as it is an essential precondition for an effective introduction of competence-based education.

If the emphasis on the role of knowledge and competence in maintaining the competitiveness of Europe is correct, innovation in the content and didactics of vocational education and training has to be an important element of the European agenda, if we seriously wish to meet this challenge. Designing and promoting new forms of self-directed and problem-based learning, focusing on how to solve occupation-relevant problems, in order to promote competence development of (future) workers seems to be a major challenge for the coming years.

4. Summary and policy recommendations

The paper discusses the need, and prospects, for curricular re-design of vocational education and training as an answer to changes in job profiles and skill requirements. It has two main parts. The first part deals with new skills needs, developments in the labour market and the responsiveness of the vocational educational system. Two main strands can be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach.

The second part deals with new curriculum design. It focuses on the question of whether, and how, these new requirements are met by re-design of initial training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. Here also two main focal points are distinguished. Firstly, innovations which accentuate (learning to) learn and study: the development of the self-directed student. Secondly, innovations which focus on learning how to solve occupationally relevant problems and how to work effectively in changing organisations: the development of the self-directed professional.

4.1 Conclusions

There is a growing conviction in Europe that (vocational) education should give students the basic equipment to cater on the one hand for the growing demands for competences while, on the other hand, enabling workers to obtain a firmer grasp of their opportunities for personal enrichment. Vocational education is increasingly regarded as the beginning of a vocational learning career, rather than as the summit of skill acquisition. During working life, workers will have to attend further training and change jobs on a number of occasions. New jobs and labour markets ask for a broadly conceptualised set of competences, to enable workers to find work and to perform adequately in different and changing work situations. The broad but occupational specific problem-solving component of skill remains essential, even more so in a flexible and insecure labour market. But it will have to include the will and ability to expand and develop competences, including the development of new competences and possibly the abandonment of old ones. Workers are supposed to take responsibility for their social work unit, be it team, company or professional group and to contribute to the optimisation and change of the work process. This in itself potentially opens up powerful opportunities for learning. But it also demands a broad professional base to build on. The broadening of occupational requirements (problems to be solved) should lead to a multi-dimensional analysis of skills needed in the work place. These are not restricted to the level of 'technical' job-specific skills.

There seems to be agreement that vocational education must offer a broad base including technical, methodical, organisational, and communicative as well as learning skills. How this objective is to be reached is less certain, and there are different answers. Different European models are distinguished according to hoe they ensure the responsiveness of vocational education and training systems to changes in occupations and the labour market. Many approaches and definitions can be

found with regard to defining new concepts of skill, including more complex and information skills, organisational skills and social-communicative skills. Two main strands can be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach. The second approach seems more consequential, as it touches the heart of vocational education and asks for reconsideration of both concepts and practices in VET. The first approach, by contrast, could be (and in many cases is) limited to an addition to VET-objectives.

The second approach seems to get more attention as there is a growing recognition of the competences workers need in order to act adequately and solve occupational problems. A central theme in this discussion is how to analyse and represent occupational problems. One promising way of dealing with this is the identification of core problems as a way of both identifying essential aspects of broad occupational competence and key qualifications, and of designing methods to deal with this in vocational education. Core problems, then, are problems and dilemmas which are of central importance for occupational performance. Core problems occur regularly as part of occupational practice – they are characteristic for the profession. Core problems refer to occupational situations in which complex problems are solved, and in which the specific characteristics of the situation, and the social context, are of central importance.

Didactic and learning theoretical insights, as well as motivational and learning styles of students and new demands on the job, all seem to ask for didactic approaches, characterised by an emphasis on self-directed learning, development of problem solving competences, tailor-made education and individual coaching and guidance, rather than frontal teaching in a class room or simple 'watch and copy' in a work place learning situation.

In many schools – and also in other educational settings inside or outside of companies – a traditional approach still dominates, based on instruction and straightforward knowledge transmission. In daily educational and training practice, there is often a huge gap between what is promoted as didactic innovation and what seems to be possible in the actual class room.

Nevertheless, many companies and colleges in numerous countries are involved in experimenting with self-directed learning, problem-based learning and/or open learning, sometimes in combination. Although many approaches are still at the experimental stage, some have already become working models. Schools and companies are looking for ways to build into the curriculum new insights with regard to didactics and with regard to needed vocational competences. Two focal points can be distinguished. Firstly an accentuation of (learning to) learn and study: the development of the self-directed student. Secondly an accentuation of learning how to solve problems: the development of the self-directed professional. With regard to the first objective, there are many activities, sometimes based on or accompanied by scientific research and concept building, dealing with learning styles and the development of learning skills. With regard to the second objective, attention is paid to the development of attainment norms, based on occupational profiles, and to designing educational settings for problem-based and project-based learning. These are not contradictory objectives – on the contrary. They are, however, also not identical, and ask for specific didactic strategies. Many projects and experiments in vocational education are limited because they centre on one of these objectives, often while stating both. But in order to reach both vocational education needs an integration and interaction between the development of the self-directed student learner and the development of the self-directed learning and working practitioner and flexible problem solver.

If the emphasis on the role of knowledge and competence in maintaining the competitiveness of Europe is correct, innovation in the content and didactics of vocational education and training has to be an important element of the European agenda, if we seriously wish chance to meet this challenge. Designing and promoting new forms of self-directed and problem-based learning, focusing on how to

solve occupation-relevant problems, in order to promote competence development of (future) workers seems to be a major challenge for the coming years.

4.2 Recommendations

Vocational education should give students a better preparation for working life and lifelong learning. In order to reach that objective qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

Vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational core competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Discussion of standards for performance and possible development paths, taking into account societal and environmental norms and values, should be an integral part of an analysis of competences, and also be included in the objectives and design of vocational education. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further development of the profession. Vocational education can have a pro-active role and support innovative work practices.

Development of innovative didactic processes and quality improvement of VET should be a priority in VET policies. Innovative competence-based education does not only ask for a detailed and rich analysis of competences, but also for design of a strong competence-oriented learning environment. A specific challenge is the inclusion in school-based VET of designs to foster the learning of how to act in complex job situations and solve problems into actual work settings. New designs for problem-based learning should be developed, tried out and disseminated.

In most European countries attempts have been made to reduce the barriers between schools and work as learning sites. Innovation in VET should focus on the inclusion of work-based learning by establishing quality criteria for work based learning places and by designing curricula which integrate learning places.

Programmes and instruments for accreditation of prior learning have been developed in several countries. Interestingly enough, the development of new ways of evaluating competences in vocational education has itself lagged behind. Traditional ways of testing knowledge (ie. by multiple choice or paper and pencil test) are often still dominant. This theme needs specific attention as it is an essential precondition for an effective introduction of competence-based education.

Bibliography

ACOA, 1999. *Een Wending naar kerncompetenties. De betekenis van kerncompetenties voor de versterking van de kwalificatiestructuur secundair beroepsonderwijs.* Den Bosch: ACOA

Achtenhagen F., 1999. *Curriculum-embedded mastery learning as a tool for fostering transfer.* Unpublished Paper. Göttingen: Georg-August-University

Andersen V., Illeris K., Kjaersgaard C., Larsen K., Olesen H. S., Ulriksen L., 1996. *General qualification.* Roskilde: Adult Education Research Group

Arnold R., 1994. *Berufsbildung. Annäherungen an eine evolutionäre Berufspädagogik.* Baltsmannsweiler: Schneider Verlag Hohengehren

Beck U., 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne.* Frankfurt: Suhrkamp

Benner P., 1984. *From novice to expert. Excellence and power in clinical nursing practice.* Menlo Park California: Addison-Wesley

BIBB, 1999. *Qualifizierungskonzepte für die Zukunft – Welche neuen Lernortkombinationen sind notwendig?* Bielefeld: Bertelsmann

Blokhuis F., Zolingen S. van, 1997. *De kern te pakken. Sleutelkwalificaties, kernproblemen en de landelijke kwalificatiestructuur.* Den Bosch/Enschede: CINOP/CRC

Boekaerts M., 1997. Self-regulated learning: a new concept embraced by researchers, policy makers, educators, teacher and students. *Learning and Instruction*, 7 (2), pp. 161-186

Bolweg J. F., Maenhout J. M. M., 1996. Full employability: economisch noodzakelijk, sociologisch naief? *In*: Faase L., Ott M., Voss C.J., eds. *Nieuwe breukvlakken in het arbeidsbestel?.* Utrecht: De Tijdstroom, pp. 92-99

Brandsma T.F., 1993. *Beroepsprofiel- en leerplanontwikkeling. De koninklijke weg als naief traject? Een vergelijkende studie naar methoden voor de ontwikkeling van beroeps-(opleidings)profielen.* Proefschrift. Enschede: Universiteit Twente

Branson J., Walsh P., 1999. The GNVQ experience in England and Wales. *In*: Trant A. et al., eds. *Reconciling Liberal and Vocational Education. Report of PAVE.* Dublin: CDVEC Curriculum Development Unit

Brookfield S., 1986. *Self directed learning.* San Fransisco: Jossey Bass

Brown A., 1997. A dynamic model of occupational identity formation. *In:* Brown A., ed. *Promoting vocational education and training: European perspectives.* Tampere: University of Tampere Press

Brown A., 1998. *Going Dutch? Changing the focus from core skills to core problems in vocational higher education.* Paper presented at an Higher Education for Capability Conference on Embedding Key Skills across the Curriculum. Nene College. 27.2.1998

Brown J. S., Collins A., Duguid P., 1989. Situated cognition and the culture of learning. *Educational Researcher*, 18 (1), pp. 32-42

Brown J. S., Duguid P., 1991. Organizational learning and communities-of-practice: Toward a unified view of working, learning and innovation. *Organization Science*, 2 (1), pp. 40-57

Brown A., Keep E., 1999. *A UK perspective on well initial vocational education and training facilitates lifelong learning.* Paper presented al ECER 99 European Conference on Educational Research, Lahti, Finland, 22-25 September, 1999

Buck B., 1989. Technologie oder Praxis? Berufsbildungsverständnis und seine Auswirkungen auf Vermittlungsformen. *In*: Buck B., ed. *Neue Entwicklungen in den kaufmännischen Berufen.* Berlin: BIBB

Carnevale A. P., Gainer L. J., Meltzer A. S., 1990. *Workplace basics. The essential skills employers want.* San Fransisco: Jossey Bass

Collins A., 1996. Design issues for learning environments. *In*: Vosniadou S., Corte E. de, Glaser R., Mandl H., eds. *International perspectives on the design of technology supported learning environments.* Mahwah, NJ.: Lawrence Erlbaum Associates, pp. 347-361

Dahrendorf R., 1956. *Industrie- und Betriebssoziologie.* Berlin: De Gruyter

Dehnbostel P., Dybowski G., 2000. *Forms and quality of learning, venues and organisation of training* (in this volume)

Dehnbostel P., Holz H., Novak H., 1992. *Lernen für die Zukunft durch verstärktes Lernen am Arbeitsplatz. Dezentrale Aus- und Weiterbildungskonzepte in der Praxis.* Berichte zur beruflichen Bildung 149. Berlin, Bonn: BIBB

Dehnbostel P., Walter-Lezius H.-J., eds., 1995. *Didaktik moderner Berufsbildung.* Bielefeld: Bertelsmann

Dreyfus H. L., Dreyfus S. E., 1986. *Mind over machine: The power of human intuition and expertise in the era of the computer.* New York: Free Press

Dybowski G., Töpfer A., Dehnbostel P., King J., 1999. *Betriebliche Innovations- und Lernstrategien.* Bielefeld: Bertelsmann/BIBB

Ellström P.-E., 1998. The many meanings of occupational competence and qualification. *In:* Nijhof W.J., Streumers J.N., eds. *Key Qualifications in Work and education.* Dordrecht, Boston, London: Kluwer

Engeström Y., 1987. *Learning by expanding. An activity-theoretical approach to developmental research.* Helsinki: Orienta-Konsultit Oy

Engeström Y., 1994. *Learning for change: New approach to learning and training in companies.* Geneva: ILO

Euler D., 1994. (Multi) Mediales Lernen – Theoretische Fundierungen und Forschungsstand. *Unterrichtswissenschaft,* 22 (4), pp. 291-311

Frei F., Duell W., Baitsch C., 1984. *Arbeit und Kompetenzentwicklung. Theoretische Konzepte zur Psychologie arbeitsimmanenter Qualifizierung.* Bern: Verlag Hans Huber

Jong M. W. de, Moerkamp T., Onstenk J.H.A.M., Babeliowsky M., 1990. *Breed toepasbare beroepskwalificaties in leerplan en beroepspraktijk.* SCO-rapport 230. Amsterdam: SCO

Geißler K. A., Orthey F. M., 1993. Schlüsselqualifikationen: Der Fortschritt schreitet voran – was soll er auch sonst tun? *Bildung in Wissenschaft und Praxis,* 22, pp. 38-41

Gleeson D., Hodkinson P., 1995. Ideology and curriculum policy: GNVQ and mass post-compulsory education in England and Wales. *British Journal of Education and Work,* 8 (3), pp. 5-19

Green A., 1998. Core skills, key skills and general culture: In search of the common foundation in vocational education. *Evaluation and Research in Education,* 12 (1), pp. 23-43

Guile D., Young M., 1996. *Connecting work, learning and higher level qualifications: a new role for theory and practice in Masters degrees.* Unpublished paper. London: Post-16 Centre, Institute of Education, University of London

Harkin J., Davis P., 1996. The impact of GNVQs on communication styles of teachers. *Research in Post-Compulsory Education,* 1 (1), pp. 97-107

Heidegger G., 1997. Schwarze Pumpe. *In:* Manning S., ed. *Qualifications with a dual orientation towards employment and higher education. Intequal report II.* Berlin: WIFO

Heidegger G., Rauner F., 1997. *Vocational education in need of reforms.* Düsseldorf: Ministerium für Wirtschaft und Mittelstand, Technologie und Verkehr des Landes Nordrhein-Westfalen

Höpfner H.-D., 1995. *Integrierende Lern- und Arbeitsaufgaben.* Berlin: IFA-Verlag

Hövels B., 1998. Qualification and labour markets: institutionalisation and individualisation. *In:* Nijhof W. J., Streumer J. N., eds. *Key qualifications in work and education.* Dordrecht, Boston, London: Kluwer

Kämäräinen P., Streumer J., 1998. Curriculum development, new learning environments and transfer of innovations in Europe. *In:* Cedefop, ed. *Vocational education and training- The European research field.* Background report, vol. II. Luxembourg: EUR-OP, pp. 155-182

Kern H., Schumann M., 1970. *Industriearbeit und Arbeiterbewusstsein.* Frankfurt: EVA

Klarus R., 1998. *Competenties erkennen. Een studie naar modellen en procedures voor leerwegonafhankelijke beoordeling van beroepscompetenties.* 's'Hertogenbosch/Nijmegen: Cinop/KUN

Levy M., 1987. *The core skills project and work based learning.* London/Bristol/Sheffield: FESC/MSC

Levy M., 1989. *Work based learning. A good practice model.* Bristol: Staff College

Laur-Ernst U., 1985. *Entwicklung beruflicher Handlungsfähigkeit.* Bern, Frankfurt am Main, New York: Verlag Peter Lang

Laur-Ernst U., 1989. *Schlüsselqualifikationen – innovative Ansätze in den neugeordneten Berufen und ihre Konsequenzen für Lernen.* Berlin: BIBB

Laur-Ernst U., ed., 1990. *Neue Fabrikstrukturen und veränderte Qualifikationen.* Berlin: BIBB

Lave J., Wenger E., 1991. *Situated learning. Legitimate peripheral participation.* Cambridge, New York: Cambridge University Press

Mansfield B., Mathews D., 1985. *Job competence. A description for use in vocational education and training.* Bristol: The Further Education Staff College

Mansfield B., Mitchell L., 1996. *The competent workforce.* London: Gower Press

Meijers F., 1995. *Arbeidsidentiteit. Studie- en beroepskeuze in de post-industriële samenleving.* Alphen aan de Rijn: Samson

Mertens D., 1974. Schlüsselqualifikationen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 7, pp. 36-43

Moerkamp T. et al., 2000. *Krachtige leeromgevingen in het middelbaar beroepsonderwijs.* Amsterdam: SCO Kohnstamm Instituut

Nyhan B., 1991. *Developing people's ability to learn.* Brussels: Eurotecnet/EIP

Nijhof W. J., Streumer J., 1994. *Verbreed Beroepsonderwijs.* Enschede: Universiteit Twente

Nijhof W. J., Streumer J. N., Eds., 1998. *Key qualifications in work and education.* Dordrecht/London: Kluwer Academic Publishers

Onderwijsinspectie, 1998. *Onderwijsverslag 1997.* De Meern: Onderwijsinspectie

Onderwijsraad, 1998. *Een leven lang leren, in het bijzonder in de BVE-sector.* Advies. Den Haag: Onderwijsraad

Onstenk J., 1992. Skills needed in the workplace. *In:* Tuijnman A., Kamp M. van de, eds. *Learning in the lifespan. Theories, research, policies.* London: Pergamon Press, pp. 137-156

Onstenk J., Voncken E., 1996. *The vocational education system and the role of the company in generating skills. The learning effects of work organization. The Netherlands.* Thessaloniki: Cedefop

Onstenk J. H. A. M., 1997a. *Kernproblemen, didactiek en ICT in het beroepsonderwijs.* SCO-rapport. Amsterdam: SCO Kohnstamm Instituut

Onstenk J. H. A. M., 1997b. *Lerend leren werken. Brede vakbekwaamheid en de integratie van Leren, Werken en Innoveren.* Delft: Eburon

Onstenk J. et al., 1990. *Leerprocessen in stages.* Amsterdam: SCO

Onstenk J., Kessels J., 1999. Employability: arbeidsmarkt, brede vakbekwaamheid en burgerschap. *Comenius*, 19 (2), pp. 113-132

Onstenk J., Moerkamp T., 1997. *De aantrekkelijkheid van beroepsonderwijs. Algemeen onderwijs en beroepsonderwijs in Nederland, Frankrijk en Noorwegen.* Amsterdam: SCO Kohnstamm Instituut

Onstenk J., Moerkamp T., 1999. The acquisiton of broad occupational competencies in vocational education. *In:* Nijhof W.J., Brandsma J., eds. *Bridging the skills gap between work and education.* Dordrecht, Boston, London: Kluwer Academic Publishers, pp. 183-203

Onstenk J. H. A. M., Moerkamp T., Gelderen A. van, 1999. *Nieuwe onderwijsconcepten in de BVE-sector.* Amsterdam: SCO Kohnstamm Instituut

Onstenk J., Meijer J., 1998. *De elektronische leeromgeving in de BVE-sector.* Den Bosch, Nijmegen: CINOP bve net

Raizen S., 1989. *Reforming education for work: a cognitive science perspective.* Berkeley: National Center for Research in Vocational Education

Reetz L., 1989. Zum Konzept der Schlüsselqualifikationen in der Berufsbildung. *Berufsbildung in Wissenschaft und Praxis*, 5, pp. 3-10

Salomon G., 1998. Novel constructivist learning environments and novel technologies: some issues to be concerned with. *Research Dialogue in Learning and Instruction*, 1 (1), pp. 2-12

Schmidt H. G., Moust J. H. C., 1998. *Probleemgestuurd onderwijs. Praktijk en theorie.* Groningen: Wolters-Noordhoff

Schön D. A., 1987. *Educating the reflective practitioner. Towards a new design for teaching and learning in the professions.* San Francisco: Jossey Bass

Scribner S., 1984. Studying work intelligence. *In*: Lave J., Rogoff B., eds. *Everyday cognition: its development in social context.* Cambridge, Ma.: Harvard University Press, pp. 9-40

Scribner S., 1986. Thinking in action: some characteristics of practical thought. *In*: Sternberg R., Wagner R.K., eds. *Practical intelligence: nature and origins of competence.* Cambridge (Mass.): Cambridge University Press, pp. 13-30

SER, 1997. *Versterking Secundair Beroepsonderwijs.* Advies Commissie Arbeidsmarktvraagstukken. Den Haag: SER

Shapiro H., 1999. *Innovation in the Danish VET System – Reform 2000.* Unpublished paper. Kopenhagen: Technological Institute, Centre for Competence, IT

Simons P. R. J., 1998a. *Paradoxes of learning and teaching.* Invited address at the conference of the British Psychological Society. Brighton, March

Simons P. R. J., 1998b. *New learning: three ways to learn in a new balance.* Paper presented at the conference Learning about learning. Helsinki: University of Helsinki, September 7-8

Slaats A., 1999. *Reproduceren en construeren. Leerstijlen van leerlingen in het middelbaar beroepsonderwijs.* Proefschrift Katholieke Universiteit Brabant

Stasz C., 1998. Generic skills at work: implications for occupationally-oriented education. *In*: Nijhof W.J., Streumer J.N., eds. *Key qualifications in work and education,* Dordrecht/ London: Kluwer Academic Publishers, pp. 187-206

Stevenson J., 1994. *The changing context of vocational education.* Selected papers 1987-93. Brisbane: Centre for Learning and Work Research

Straka G. A., 1997. *Self-directed learning in the process of work: Conceptual considerations-empirical evidences.* Paper for the 1st World Conference on Self-Directed Learning, Montreal

Straka G., Stöckl M., 1998. New learning formats and venues in the context of information and communication technologies. *In*: Cedefop, ed. *Vocational education and training – the European research field.* Background Report. Luxembourg: EUR-OP, pp. 183-224

Tough A., 1979. *The adult's learning projects: a fresh approach to theory and practice of adult learning.* Toronto: Ontario Institute for Studies in Education

Wilsdorf D., 1991. *Schlüsselqualifikationen. Die Entwicklung selbständigen Lernens und Handels in der Berufsausbildung.* München: Lexika Verlag

Witteman H. P. J., 1997. *Styles of learning and regulation in an interactive learning group system.* PhD-Thesis. University of Leiden

Young M., Guile D., 1997. *New possibilities for the professionalisation of UK VET professionals,* Post-16 Centre, Institute of Education, University of London

Zolingen S. J. van, 1995. *Gevraagd: sleutelkwalificaties. Een studie naar sleutelkwalificaties voor het middelbaar beroepsonderwijs.* Proefschift. Nijmegen: KUN

Van Zolingen S., Blokhuis F., Streumer J., Nijhof W. J., 1997. Towards a method for the formulation of key qualifications and core problems. *In*: Nijhof W.J., Brandsma J., eds. *Bridging the skills gap between work and education.* Dordrecht, Boston, London: Kluwer Academic Publishers, pp. 115-138

Zuboff S., 1988. *In the age of the smart machine. The future of work and power.* New York: Basic Books.

Vocational training and innovative practices in the environmental sector

A comparison of five EU Member States, with specimen cases

Roland Loos

Abstract

This report provides an overview of current developments in environment-related vocational education and training in Austria, Greece, Denmark, Sweden and Luxembourg. After an introductory chapter on general developments, the report focuses on two subject areas: VET initiatives and contents in solar and geothermal technologies; VET initiatives and contents for lower qualified younger unemployed people and other target groups on the labour market.

A number of case studies in these countries is presented and assessed. The report goes on with an analysis of qualification needs for skilled workers in the field of renewable energies generally and for solar and geothermal energy utilisation in particular. An assessment is made on what extent these innovative practices are transferable to other Member States.

Table of contents

Introduction 359

1. Current state of development of environmental vocational training in selected EU countries 361
Greece 361
Austria 362
Denmark 365
Sweden 367
Luxembourg 368

2. Innovations in environmental vocational education and training, illustrated by selected cases 369
2.1 The concept of innovation in system theory and vocational training 369
2.2 The potential of the selected cases for innovation 370
2.3 Use of solar and geothermal energy in Greece, Austria and Denmark – training initiatives for skilled workers and market development 371
The situation in Greece 371
The situation in Austria 373
The situation in Denmark 376
2.4 Integration of unemployed women and young people into the labour market via environment-oriented continuing vocational training – Sweden and Denmark 377
Integration of unemployed young people into the labour market in Denmark 377
Integration of unemployed women into the labour market in Sweden 378
2.5 Environmental training initiatives of the social partners in Austria and Sweden 379
Incorporation of occupation-specific environmental skills into apprenticeship/ training in the metal, electrical and energy sectors in Austria 379
Research and Study Circles for corporate environmental protection in Sweden 380
2.6 Local environmental education and training initiatives in Luxembourg 380

3. Skills requirements in environmental vocational training – transfer of innovative good practice 381
3.1 Skills requirements in environmental vocational training at skilled-worker level in the use of renewable energy sources 381
3.1.1 Skills requirements in the use of renewable energy sources at skilled-worker level 381
3.1.2 Transfer of innovative good practice 383
3.2 Skills requirements for environmental vocational training measures to integrate specific target groups into the labour market 383
3.2.1 Skills requirements for environmental vocational training measures to integrate low-skilled young people and unemployed women into the labour market 383
3.2.2 Transfer of innovative good practice 384

4. Creation of a new employment volume and new jobs at skilled-worker level in the environmental sector 384
Solar technologies 385
Environmental protection within companies (corporate waste and recycling management) 385
Local-authority advisory activities on the environment and waste 385
Local-authority and private enterprises in the waste disposal and recycling sector 385

5. Conclusions 386

Bibliography 389

Introduction

For some years, environmental skills and competences have been steadily increasing in importance. New EU directives, more restrictive legislation in the Member States and the constantly growing environmental awareness of the general public have given rise to new fields of activity and new markets in the environmental protection and environmental technology sectors, and these will also continue to increase in importance in the future.

This trend also involves the creation of many new jobs, although some of these 'only' constitute a shift away from work involving products and services that are more harmful to the environment to more environmentally harmless products and services.

In the context of corporate and local authority environmental protection, various measures are being adopted in an effort to reduce energy consumption and to reduce the volumes of solid, fluid and gasiform pollutants. Appropriate separation of wastes is aimed at facilitating recycling of the greatest possible quantities. The aim is also to store and destroy residual wastes in an eco-friendly way. The reactive environmental protection previously practised has long been insufficient to cover these activities. Preventive environmental protection is becoming ever more important. This requires a deeper understanding of environmental correlations and greater specific environmental know-how.

In addition to the environmental protection technologies required for the fields mentioned, technologies for use of renewable energy sources in particular constitute new growth markets in the environmental sector. In order to more easily develop these new markets (e.g.the solar heating market, the wind energy market or the RME[1] market) involving environmentally harmless products and services, but also to comply with more restrictive legal constraints, new skills and competences have become necessary in companies in many sectors.

Therefore it is of fundamental importance to integrate general environmental knowledge of environmental correlations and specific vocational skills into vocational training in the occupations concerned. But it has also become necessary to provide basic environmental knowledge in vocational training for most other occupations.

The first chapter of this report summarises and compares the current status of vocational environmental education and training in five Member States.

In addition to basic data on vocational environmental education and training in the countries selected for the study, the analysis focuses on two main subject areas:

1. vocational training initiatives and their content and market development in the field of the use of solar energy (active and passive) and the use of geothermal energy;
2. environmental education and training initiatives aimed at integrating low-skilled or unemployed young people and other problem groups into the labour market.

Of the renewable energy sources, the use of solar energy and geothermal energy represents fields in which training and continuing training of skilled workers have the greatest need for new training initiatives and content. Skills at skilled-worker level for other renewable energy sources either primarily form part of specific 'traditional' training courses (e.g. hydroelectric power, biomass)[2], or currently have a greater need for training initiatives with less new content. The latter applies to wind energy, for example, but this would change in the event of greater market growth in the smaller wind generators which to date have been little used.

[1] Rapeseed oil methyl ester diesel (biodiesel).

[2] With regard to the use of biomass, it should be borne in mind that owing to technical innovations and new application concepts, skills requirements going beyond the traditional fields of forestry and the timber industry have come into being in this area also.

Skills involved in the use of geothermal energy are frequently imparted in courses aimed at providing training in solar technologies. For this reason, and because of the close link between the two fields in planning of an energy programme for private or industrial buildings, it is very important to include use of geothermal energy in the analysis.

A common structure is observed in describing the individual states, but particular account is taken of initiatives of specific importance to the relevant country. Important initiatives from the two main subject areas and other major measures in the field of vocational environmental education are shown in the context of a description of initial vocational training for skilled workers, continuing vocational training, and training at universities and institutions of higher education. In the sections on Austria, Denmark and Sweden, initiatives by the social partners are also mentioned, because in these countries the social partners play an important part in vocational environmental education and training.

The survey concentrates on initial and continuing training for skilled workers in particular, but account is also taken of the most important initiatives at all other levels of vocational training.

The country reports also take account of the most important legislative decisions on integrating environmental education into general and vocational education, since knowledge of global correlations in the environment can be regarded as a basic component of both general and vocational environmental skills. These decisions are shown at the beginning of the national reports. At the end of the national descriptions, there are brief details of the current situation as regards development of the market for use of renewable energy sources.

As regards the subject area 'training initiatives aimed at integrating low-skilled or unemployed young people into the labour market', Sweden is not covered in Chapter 1. However, in the context of the specimen cases in Chapter 2, there is a detailed description of an innovative project in Sweden whose pilot phase recently ended.

In Chapter 2, following a brief discourse on the concept and meaning of innovations from the point of view of system theory and as regards vocational training, innovative training initiatives in the five states are described on the basis of representative specimen cases from four subject areas.

The two subject areas covered in Chapter 1 are again taken up and are analysed in more detail. In the analysis of solar energy use, the most important initiatives in Austria, Greece and Denmark at skilled-worker level are described. Since the training requirement in the sector is crucially determined by the market trend, in this context the current state of development of the solar technology market in the three countries is also described. A description is given of the most important initiatives in Denmark in the context of low-skilled young people. As already mentioned, the relevant section on Sweden does not claim to give a complete description of the most important initiatives all over the country.

The third subject area covered is sector-specific initiatives by the social partners in Austria and Sweden for implementation or improvement of environmental vocational training. The fourth subject area is innovative local continuing training initiatives in Luxembourg. This subject area has been included in this report primarily because Luxembourg offers no relevant examples of the other three subject areas.

All the specimen cases represent exemplary initiatives in the Member States. The cases exemplifying the first three subject areas also constitute models for other Member States. The two local initiatives in Luxembourg described in the context of the fourth subject area constitute significant innovations for this state, but in comparison with the other subject areas they are less important in terms of a possible transfer to other states.

Chapter 3 analyses the skills requirements for skilled workers in the field of use of renewable energy sources. It then discusses the

extent to which, if the examples of good practice described in Chapter 2 are transferred to other EU Member States, they can help to improve the training level in those states. It goes on to discuss the skills profiles required in order to integrate low-skilled young people into the labour market, by means of environmental vocational training. We then return to the Danish and Swedish examples of the integration of young people into the labour market discussed in Chapter 2 and assess their transferability to other Member States.

Chapter 4 assesses the extent of new employment and new jobs for skilled workers created by products and services in the environmental sector.

This paper is based on the results of the first phase of the current Cedefop project, '*Observation of innovations in vocational training*'. In this project, Cedefop supports the European Commission in the dissemination of innovations in vocational training, by analysing the potential for innovation in current vocational training approaches in the Member States and in transnational projects. In the course of this year, Cedefop will produce relevant research reports on four selected focal areas of vocational training, including environmental vocational training. The reports are intended to provide an overview of the current situation in vocational training in these areas, to assess innovative practice in the focal areas, and to produce recommendations for implementation of innovative vocational training measures, directed to political decision-makers at regional, national and Community levels.[3]

Within the framework of this Cedefop project, Oliver Kress (ÖIBF)[4] has produced national studies on Austria, Denmark and Luxembourg, Harriet Axelsson (Halmstadt University) has produced the Swedish national report, and Theo Papatheodossiou (Greek Ministry of Education) has produced the Greek national report. The content of the present paper is based on these reports, on earlier reports obtained by Cedefop, and on further telephone research and research into the literature of my own. Eight more EU Member States are to be added to the study in the near future.

1. Current state of development of environmental vocational training in selected EU countries

Greece

In 1990 and 1991, laws were adopted making it possible for teachers to include vocational education in their lessons. Since then, the Ministry of Education has specifically promoted environmental education projects in Greek schools and the establishment of school networks for (inter)active involvement in environmental and environmental-protection issues (European Commission, 1997).

Environmental education in schools is not compulsory. Schools and teachers decide voluntarily whether they will incorporate this subject area into lessons. In order to support implementation of environmental education, the Ministry of Education has initiated a number of other measures. For example, it was decided to establish institutes of environmental education (KPEs), in which students can participate in environmental projects and teachers are given the opportunity to participate in further education in the form of specific environmental seminars. The KPEs constitute a connecting link between schools, local administrations and scientific training institutions. To date, the greatest progress with regard to implementing environmental education has been made in the first stage of secondary education. A number of curricula include ecology and environmental protection.

In the context of initial vocational training, basic information on solar technologies is conveyed in some vocational specialisms. How-

[3] Loos, R., 1999. Cedefop INFO, 2/99. Identification and Dissemination of Innovation.

[4] Österreichisches Institut für Berufsbildungsforschung [Austrian Institute for Vocational Training Research].

ever, environmental vocational training focuses on waste treatment. As yet there is no specific course on renewable energy sources.[5]

Continuing vocational training is primarily provided by State-recognised continuing training institutes (KEKs). Environmental training offered includes courses on environmentally sustainable agriculture and landscape conservation, in the context of the national parks. Courses on renewable energy sources are also available, as are courses on environmental protection and waste management – engineering in the fields of industrial environmental management, monitoring of environmental pollution, and recycling. The most important subject areas in these courses are environmental protection and global environmental links, environmental legislation, recycling, and treatment of municipal and industrial wastes. Most of these courses are available only to the unemployed. Such courses are part-financed by the European Social Fund. The courses normally last for 300 hours and represent by far the greater part of the initiatives implemented by many KEKs (Papatheodossiou, 1999).

Training measures in the field of technologies for utilisation of renewable energy sources are also offered by Greece's Chamber of Engineering. The Centre for Renewable Energy Sources (KAPE) occasionally offers seminars and short courses providing basic information on alternative energy sources (solar heating, geothermal energy, wind energy).

In some training courses at specialised institutions of higher education (TEIs), skills are imparted in the field of utilisation of renewable energy sources. Skills in this field are taught at the Athens TEI, in the context of power engineering, for example, and at the Heraklion TEI under the heading of mechanical engineering.

Most environmental specialisms at university level are postgraduate courses. The University of Athens, for example, offers the two-year postgraduate course 'European Environmental Management'. The University of the Aegean offers a degree course whose content includes ecosystems and waste management in a shipping context.

The University of Athens and other universities impart knowledge about utilisation of renewable energy sources in the context of vocational training specialisms in the area of energy technologies. The Technical University of Athens plans to set up, in cooperation with the First Viennese Solar School at the Viennese Institute of Vocational Advancement, an interdisciplinary further education facility for the utilisation of solar and geothermal energy, in accordance with the modular concept developed by the LdV project, 'European solar school'.[6]

As regards developing the renewable energies market, Greece leads the EU in terms of solar energy heating applications. A total of 22% of all Greek households currently have solar heating installations.[7] (Zervos, 1998.) The Greek wind energy sector is still relatively small. However, there is a considerable potential for developing this market, as Greece has one of the greatest wind energy potentials in Europe. In the case of the many Aegean islands in particular, which are not connected to the DEI national electricity network, the use of renewable energy sources often proves to be more cost-effective than conventional fossil fuel sources. The wind-driven generators currently in use are mainly hybrid systems, a combination of wind-driven generator and photovoltaics (Fissamber, 1996).

Austria

In the mid-1970s, Austria began incorporating environmental education into the general school education system as an interdisciplinary subject. In 1981, it was incorporated into

[5] Telephone interview with V. Fissamber, Athens/Thessaloníki, 17.8.1999.

[6] Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloníki, 16.8.1999.

[7] Telephone interview with A. Dimoudis, Centre for Renewable Energy Sources (KAPE), Athens/Thessaloníki, 16.8.1999.

366

the curricula of the polytechnic schools (one-year preparatory courses prior to initial vocational training). The environmental education fund established by the Ministry of Education in 1992 is responsible for supporting environmental projects carried out by schools throughout the country.

In 1984, the Ministry of Education set up the 'environmental education working party', which was commissioned to implement various environmental education campaigns (e.g. holding further education events focusing on the environment, and advising teachers) and to set up and coordinate an information network at national level (European Commission, 1997).

In 1998, this institution (now known as the 'environmental education forum') was mandated by the two competent ministries (the Ministries of the Environment and Education) to develop environmental training content for all apprentice training/traineeships ('gearing apprentice training/traineeships to the environment'). Another important project of the forum with a related subject is 'ecologising schools' (Kress, 1999).

In Austria, initial vocational training at skilled-worker level takes place in the 'dual system', in which, as in Germany, apprentices/trainees receive education in vocational schools as well as in-company training. This assures a uniform training level and ensures that important non-company-specific knowledge and skills are acquired. The training content of each training occupation is regulated by vocational trainers, who lay down uniform and compulsory national framework standards.

In 1997, following an initiative by the social partners, the Ministry for Economic Affairs began incorporating environmental skills into the job profiles of various training occupations in the metal and electrical sectors. The provision of general environmental knowledge and global environmental correlations is now a compulsory feature of training in all training occupations in these sectors. For four occupations, the provision of occupation-specific environmental content during training is also a compulsory feature, both in vocational schools and in enterprises (Loos, 1996).

In addition to the integration of environmental skills into training occupations, between 1992 and 1997 the environmental training occupation 'recycling and disposal technician' was initiated in the field of initial vocational training, as a training experiment. In 1998, on the basis of this job profile (with additional specialisms in the fields of wastewater and wastes), two specific regular three-year training occupations were created, namely 'disposal and recycling specialist – wastes' and 'disposal and recycling specialist – wastewater'. As yet, however, their significance is relatively limited. In the context of the training experiment mentioned above, in 1996 only 30 trainees were trained in the whole of Austria (Kress, 1999).

Since the training occupation 'chemical worker' was created, many young people who previously chose[8] to remain as semi-skilled workers[9] are now training in this occupation. Young people are motivated to do this training mainly because chemical-worker training is less demanding than that of the other two training occupations in the chemicals sector. In addition to information about global environmental correlations, training for this training occupation involves acquiring extensive occupation-specific knowledge in the field of the environment and environmental protection. For many young people, learning this

[8] Previously, young people who wanted to work in the chemicals sector but saw studying for one of the other two training occupations as too difficult could work only as semi-skilled workers. Training occupations in the chemicals and paper industries in Austria involve a high level of skills. This is essentially a positive feature, as high-quality training puts skilled workers in a stronger position on the labour market. The creation of the somewhat less sophisticated occupation of chemicals worker has now also provided a satisfactory training course in this sector for those less interested in learning and weaker trainees.

[9] In Austria, in response to a trade union initiative the discriminatory term 'Hilfsarbeiter' [unskilled or auxiliary worker] has largely been replaced by the term 'Angelernter' [semi-skilled worker].

occupation also means markedly changing their attitude to the working environment and the external environment (Loos, 1996).

The social partners' training institutions (BFIs[10] and WIFIs[11]) play a central and active part in continuing vocational training for skilled workers and those who have completed secondary vocational training courses. They initiate many innovative continuing training programmes in the field of environmental protection and environmental technology. The two main examples are the First Viennese Solar School at the BFI of Vienna and the WIFI's Environmental Protection Academy.

Since 1995, the First Viennese Solar School at the BFI of Vienna has offered a comprehensive continuing training programme in solar technology and geothermal energy. The target groups addressed by the training are skilled workers and graduates of higher technical training institutions, as well as interested parties in other occupations, such as architects. As an innovative continuing training institution for skilled workers in the field of solar technology and geothermal energy, in conjunction with initiatives in Germany it serves as a model for the whole of the EU. The teaching programme is primarily based on a good combination of theoretical and application-oriented knowledge in all areas of importance to solar technologies. Interdisciplinary training in this field takes the form of three course modules: *photovoltaics, solar heating and heat pumps*, together with optional modules. Training ends with a project paper and a commission-based final examination (Loos, 1997).

In addition to environmental and other continuing training activities, the BFI of Vienna is currently carrying out the LdV 'Synchro' project. This involves developing and testing training modules for authorised persons for hazardous goods. The modules are intended to assure the first-ever uniform quality standard for this training in the EU and thus to fulfil the skills training criteria for this skilled worker in accordance with the EU directive on authorised persons for hazardous goods (Loos, 1998).

The WIFI's Environmental Protection Academy offers a three-year course in environmental protection. It is structured as follows: training to become an authorised person for wastes (first year), training to become a waste and recycling technician (second year), and training to be a specialist environmental-protection technician (third year).

An important continuing training centre in the field of ecological construction is the Vorarlberg International School of Solar Construction, which offers special continuing training courses for architects, master builders, construction engineers, planning departments, dealers in building materials, specialist teachers and energy consultants. Environmental and financial aspects of energy saving in construction are covered in their entirety and in terms of their specific application. The aim is for participants in the courses to be able to identify and assess relevant environmental and financial factors and to apply them in practice (Kress, 1999).

Within vocational training in secondary schools, some higher technical training institutions (HTLs) teach knowledge and skills in the field of environmental technologies, both in the area of renewable energy sources and relating to waste-treatment technologies and technology for monitoring emissions. The most important example is HTL Pinkafeld, where since 1998 a programme of training in solar technologies has been offered, designed partly on the basis of the First Viennese Solar School's modular structure.[12]

In the context of post-secondary vocational training, for some years there have been courses at specialised institutions of higher education with training content geared above

[10] Berufsförderungsinstitute (institutes of vocational advancement – continuing training institutes of the employee organisations).

[11] Wirtschaftsförderungsinstitute (institutes for the promotion of economic development – continuing training institutes of the employers' organisations).

[12] Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloniki, 16.8.1999.

all to the requirements of industry. Some of them are important centres of vocational training in environmental management and environmental technologies. For example, the Viennese Chamber of Trade and Industry's seven-semester course in tourism management offers special training in environmental management.

WIFI[13] Innsbruck's eight-semester course in process and environmental engineering is another important example. This course provides sound, practice-oriented and highly interdisciplinary training in the fields of process and environmental engineering (Chamber of Trade and Industry, WIFI course book, 1999).

At university level, the University of Soil Reclamation (BOKU), Vienna, in particular offers environmental vocational training. BOKU offers the 'individual diploma course in environmental engineering with consolidation' and the course in 'agricultural planning and landscape conservation' (both ten semesters), and the University of Graz offers the 'individual diploma course in environmental system sciences'. All three of the courses cited are a minimum of ten semesters in length (Kress, 1999).

With regard to the use of renewable energy sources, Austria leads the EU in terms of their use measured as a percentage of overall energy consumption. In the field of use of renewable energy sources in Austria, traditional hydroelectric power and biomass still play a greater part than the new growth market, solar heating. For some years, the use of RME diesel[14] for tractors and cars has also constituted a new market, although this is currently still a small one, limited to four regions. At EU level, Austria is in second place behind Greece as regards the use of solar energy for heating[15] (Austrian Ministry for Economic Affairs, Energy Recovery Agency, 1998).

[13] Wirtschaftsförderungsinstitut (Institute for the promotion of economic development).

[14] Rapeseed oil methyl ester diesel (biodiesel).

[15] Calculated on the basis of the overall area of solar collectors installed to date.

Denmark

Denmark is comparatively advanced in terms of incorporating environmental education into schools. Environmental education was incorporated into biology instruction in 1976. An environmental content was incorporated into social studies classes in 1987, and into chemistry and physics in 1989. The inclusion of an environmental content in primary school curricula was laid down in the 1993 Law on primary schooling (European Commission, 1997).

In 1994, the Ministries of the Environment and Education jointly formulated the objective of incorporating a compulsory environmental content into the curricula of all institutions providing general education and vocational training. In accordance with this objective, all school-based and out-of-school education programmes should contain an environmental element specifically adapted to suit the relevant subject or course (Kress, 1999).

Today, general environmental studies are widely taught throughout the school system and in apprentice training. Teaching of occupation-specific environmental skills is dependent on initiatives by the relevant schools or enterprises.[16]

Since 1993, three-day training courses in solar heating have been held at Søborg and Herning technical secondary schools, in cooperation with the DTI (Dansk Teknologisk Institut – Danish Institute of Technology). The courses provide participants with theoretical knowledge and practical skills. Since 1998, a craft school has been holding courses in photovoltaics.[17]

There are virtually no special training facilities for skilled workers in the field of wind energy use, which is important to Denmark. Employees acquire the necessary skills primarily through short in-house training courses and on-the-job training.

[16] Telephone interview with B. Clematide, Copenhagen/Thessaloniki, 1.9.1999.

[17] Telephone interview with L. Buhl, DTI, Taastrup/Thessaloniki, 17.8.1999.

An important example of environmental vocational training at university level is the two-year course in 'environmental management and eco-auditing' instituted in 1995, in the field of economics. It teaches, in particular, economic skills in the fields of corporate environmental management, environmental planning and eco-auditing.

Denmark leads the world in terms of expenditure on continuing training in relation to GNP. All employees are explicitly entitled to receive it. The 24 labour market vocational training centres (Arbejdsmarkedsuddannelses center – AMU) distributed throughout the country play a key part in continuing training. They are managed by the labour market training fund for training and continuing training, which comes under the aegis of the Ministry of Labour. The AMU centres currently offer 19 environmental course modules. One example of these is the pilot course in 'environmental awareness'. The course content includes environmental management, waste treatment and separation of wastes, and environmentally sustainable technologies. A one-year course in 'transport and treatment of solid and liquid wastes' has been introduced specifically for the unemployed. The main institutions providing continuing training courses in corporate environmental management and eco-auditing are DTI Miljøteknik in Tastrup and TIC Danmark in Esbjerg.

In comparison with Austria, the social partners play a minor part in provision of continuing training measures, but they play a leading part in decision-making processes relating to public-sector continuing training measures. The Danish trade union federation, LO, provides environmental training courses for its members in the trade union's own training college (Kress, 1999).

The LO has proposed a national strategy for a green industrial policy, in which environmental training and skills development are regarded as key factors. The aim is to develop industrial regulatory tools to impart both external and corporate environmental knowledge, and to promote increased individual responsibility and independent action. Raising the level of employees' skills and competences should at the same time give enterprises competitive advantages (LO, 1998).

Many production schools (produktionsskole) have been set up in Denmark, to promote labour market integration of unemployed low-skilled young people. Young people normally attend the production schools for 12 months, but they can leave the school at any time if they have found a job or a training place. Over 5.000 young(er) unemployed people currently attend the 107 Danish production schools.[18]

Teaching and training do not take the form of a fixed curriculum or modules, but follow outlines. The training plan is also tailored to students' individual needs. Many production schools offer students outlines that are strongly oriented to the environment. Examples of production schools with a strongly environmentally-oriented teaching and training content are the Nature School at Roskilde, the Environment and Nature School at Ringsted, and the Pile Mølle production school at Ishøj. At the Pile Mølle production school, for example, young people are offered outline training in *nature and environment, children and environment*, craft outlines in wood and metal processing, and a tourism outline with a strong element of transnational teaching and training activities (Foreningen for Produktionsskoler og Produktionshojskoler, 1999).[19]

With regard to the use of renewable energy sources, Denmark leads Europe in terms of the use of wind energy measured as a percentage of overall energy consumption. The Danish wind energy market also holds a leading position worldwide. The use of biomass is also of great importance. Solar heating has been an important growth market in Denmark for some years. However, its market size is not comparable with the markets in Austria or Greece. In contrast to solar heating, the market for photovoltaics is still relatively small, but this too is growing (Kress, 1999).

[18] Telephone interview with A. Hiss, Director of the coordination office for production schools, Vejle/Thessaloniki, 10.9.1999.

[19] Telephone interview with P. Gaarn-Larsen, Director of the EU Centre at Pile Mølle production school, Ishøj/Thessaloniki, 10.9.1999.

Sweden

The 1985 Education Act laid down that all teachers must respect environmental and environmental protection values. In 1990, the Government decided that environmental education should be incorporated into teaching in all compulsory schools (European Commission, 1997; Weiters: Act on Education, Stockholm, 1990). In 1991, work began on drawing up new curricula, in which the highest priority was to be attached to environmental education in addition to other areas. In 1994, the new programme incorporating environmental education entered into force for elementary schools (European Commission, 1997).

In 1997, a Government document set out two important objectives for schools: systematic continuing training for teachers, with a view to raising the level of their environmental competences and their capacity to impart environmentally-oriented training content, and the institution of an environmental evaluation system for schools.

In the context of continuing training for skilled workers, it is primarily short courses that are offered on solar technologies. The Association of Energy Consultants holds short courses lasting one to three days. The National Institute of Development (SIFU) and Engineer Training (STF) also offer short courses taking account of use of renewable energy sources. Self-assembly groups assembling solar collectors occasionally organise seminars or short courses providing basic information on the use and possible applications of alternative energy sources and practical skills for assembling solar collectors.

The most important environmental training course at university level is the master's course in 'environmental engineering', which takes either two or three years. Three-year courses available focus on the energy market (University of Härnösand) and bioenergy (University of Umeå), and a three-year course in eco-technologies is offered by the University of Östersund. The Universities of Katrineholm and Västerås offer two to three-year short courses in energy and environmental technology. The Universities of Västerås, Karlstad, Härnosand, Kalmar, Gävle and Umea offer energy engineering courses of the same length.

The first university-level course in solar engineering began in August 1999, the one-year master's course at the European Solar Engineering School. This course enables graduates of engineering colleges to acquire comprehensive training in solar technologies.[20] The one-year course covers six subjects/modules: *advanced solar heating*, a further course in *advanced solar heating, advanced photovoltaics, solar architecture / passive use of solar energy, utilisation and management of solar energy*, and *advanced use of solar energy for tropical climates*.

Students must complete four of these six subjects and then write a dissertation. The teaching consists of lectures, seminars, discussion groups, practical sessions, computer training for the solar engineering field, and study visits. It is intended that on completion of the course, students should be capable of independently supervising all activities associated with use of solar energy. They should also be capable of understanding scientific reports on this subject. These teaching units can also be followed individually, as two-month courses.[21]

In 1991, the LO, the Swedish Trade Union Federation, developed its own environmental programme, in which environmental protection requirements are closely linked with occupational health and safety. A number of the LO's sectoral trade unions offer information courses on this subject in the workplace. The TCO, the white-collar workers' trade union, is implementing a project on 'the environmentally adapted office' in conjunction with national authorities and other organisations. This project is designed to promote environmental awareness in the workplace. TCO has developed a transnational evaluation system, by means of which energy consumption and materials are assessed via EDP. This system is currently the only one of its kind and is in use at international level.

[20] Telephone interview with S. Gustavsson, SEAS, Stockholm/Thessaloniki, 18.8.1999.

[21] European Solar Engineering School. http://www.eses.org

In cooperation with the social partners (SAF and the LO), the Swedish Labour Welfare Council has developed materials in which occupational health, corporate environmental protection and global environmental correlations are tackled jointly (including 'Kretslopp – ett måste i framtiden' in 1996 – 'ecocycles – a must in the future').

The EU-sponsored project, *Sustainable Energy and Environment* (SEE) aims to develop and hold a one-year course[22] for unemployed women. In the first part of the project, SEE ADAPT, the specific skills requirements in the local construction sector in the field of energy and the environment were identified. The structure of the second part, SEE NOW, was developed on the basis of these findings. Unemployed women from the construction sector, with university-level training (architects and engineers), are being equipped with sound knowledge in the field of energy and the environment in the context of the construction sector. The aim is to equip course participants to work as environmental and energy consultants in the construction sector once they have completed this training (Axelsson, 1999).[23]

As regards renewable energy sources, the market for bioenergy is highly developed in Sweden. New fields of application have joined traditional forestry concepts. The market is also expected to increase considerably in the coming years. At present, the solar energy market is still very small.

Luxembourg

Less progress has been made with incorporating environmental education into general education and vocational training in Luxembourg than in Denmark, Austria and Sweden.

In 1990, general environmental education was added to the curriculum of primary schools. Environmental education has been incorporated into biology lessons in secondary schools. The training of biology teachers includes ecology, and they are given an introduction to environmental education in the course of their teacher training. For all other teachers, only a few in-service practical training measures are available (European Commission, 1997).

The entire field of school-based vocational training is covered by technical secondary schools. Training is divided into three levels: the school-based component of apprenticeship/training (supplementing in-company apprenticeship/training, similarly to the dual system in Germany and Austria), and middle and higher school-leaving qualifications based on vocational training. Within technical secondary schools, as yet only nursing and social work training includes an environment-oriented subject (*environmental education and health education*). As from the summer of 2000, it is planned that the subject 'technology, environment and health' will be introduced into business training, in the form of two hours a week for class 10. In the context of the school-based element of apprenticeship/training, one hour a week will be devoted to *environmental education and health education* in classes 10 or 11.

The question of incorporating environmental education into chemistry and physics teaching at technical secondary schools is currently under discussion. However, in the course of this discussion, in which the social partners have been involved, misgivings have been expressed as to whether these subjects can really provide subject-oriented and general environmental education in line with the holistic approach aimed at.[24]

[22] The precise duration of the course is 50 weeks.

[23] Harriet Axelsson was the coordinator of the SEE NOW project and presented an initial interim report on the course to the *Conference on Environmental Education and Training in Europe* (European Commission) on 4.5.1999.

[24] Until recently, the Biology Programme Committee had sole responsibility for vocational environmental education in schools. Now changes in school curricula in the field of environmental education are also discussed with the social partners. Telephone interview with P. Petry, Ministry of Education, Luxembourg/Thessaloniki, 4.10.1999.

As regards continuing training, the social partners associations organise continuing training courses at the request of companies. These are then implemented by public or private continuing training providers. Large companies implement their own continuing training initiatives (e.g. the Luxembourg steel companies). The Chamber of Trade and Industry is the most important body providing environment-oriented continuing training courses.

As regards general education and vocational training and continuing training, Luxembourgers often take advantage of training options available in the neighbouring countries of Germany and France, as it is not efficient for a country with a population of just over 300,000 itself to provide all relevant specific education and training. In addition to university education, this also applies, in particular, to many continuing vocational training measures. It is not uncommon for environment-oriented and other continuing training courses to be implemented in cooperation with providers of German training activities. The ten-month course in 'landscape conservation and environmental protection' and the two-year course in 'waste recycling and water treatment' are two important examples of such initiatives. The courses are tailored to the requirements of companies in Luxembourg and Germany and include a specialised theoretical and practical training content, which is taught in Luxembourg's continuing training centres and German training centres (Kress, 1999).

2. Innovations in environmental vocational education and training, illustrated by selected cases

2.1 The concept of innovation in system theory and vocational training

In the classical system theory of Talcott Parsons, systems of action possess four basic functions: pattern maintenance, integration, goal attainment and adaptation. In developed societies, these four functions are further differentiated into specialised subsystems, in order to increase the ability of the social system to adapt to new system environments (Parsons, 1975).

From the point of view of system theory and, in particular, according to more recent formulations, innovation can be defined as the product of reactions of the system to altered influences of the system environment. Social systems react to influences from outside the system by continuously adapting structural segments within the system to the new requirements. This is intended to ensure the continued existence of the entire system (Wilke, 1993).

In this restructuring and reorganisation, new innovative structures and products are shaped from existing elements. These are intended to maintain or improve the efficiency of system functions. However, only social systems have the capacity for self-reference and conscious reflection on and evaluation of their own actions, and hence the capacity to introduce innovations. Hence only by means of the self-reference of social systems can new, appropriate, independent products and structures be developed out of existing elements (Loos, 1994).

From the point of view of system theory, the concept of innovation is of importance to vocational training insofar as it brings to the fore the process of adapting structures within the system to altered conditions outside the system. Innovations in vocational training systems are to be understood as 'successful' reactions to changes in systems surrounding the training system or closely associated with it. Trade and industry and the labour market are particularly relevant here.

However, innovative vocational training practices resulting in improvements in vocational training in a particular occupation or sector in one state do not necessarily have the same positive impact within another national vocational training system. Before good practice is transferred, therefore, the framework conditions determining the efficiency of the vocational training innovation in the Member State concerned must be analysed. An

assessment must then be made of whether the specific economic, legislative and social structures in the other Member State can facilitate similarly successful implementation.

The European Commission's *Green Paper on Innovation* cites two approaches to assessing innovations:

1. the innovation process;
2. the result and consequences of the innovation.

In the first approach, the investigation focuses on the process leading to an innovation. The form and design of the process are analysed to determine the extent to which they contain new and efficient structures. In the second approach, the result and consequences of the innovation are analysed (Geers, 1998).

To achieve a comprehensive assessment of the efficiency of transferring innovative vocational training practices to other Member States or candidates for accession to the EU, both dimensions should be included in the analysis.

In the following descriptions of innovative vocational training practices, the analysis focuses on the second aspect. Both aspects will be incorporated in full in the report on the Cedefop project '*Observation of innovations in vocational training*'.

2.2 The potential of the selected cases for innovation

In the descriptions given in this chapter, the selected cases will, in particular, be examined to determine to what extent they constitute vocational training innovations for the country concerned. The selection, however, was primarily based on cases that are also innovative for other Member States. The question of the specific potential of the individual cases for innovation transfer will be discussed in more detail in Chapter 3.

In the first subject area, innovative education and training measures in the field of use of solar and geothermal energy, the potential for innovation lies above all in the efficient and application-oriented design of course content (comprehensive training in relevant theoretical knowledge and practical skills) or in the provision of comprehensive course modules and trans-occupational (particularly in the field of plumbers and electricians, but also in associated fields) modular training courses with project work of practical relevance and certification on completion of the course. This applies in particular to the initiatives in Austria and to those getting under way in Greece.

In this context, Denmark's innovation potential lies in particular in the creation of short courses with a final written test and certification as a solar engineer, together with agreement of the players involved in the solar technology market that only solar heating and PV installations undertaken by a certified solar fitter will receive financial aid from the State.

Only some elements of the actual teaching method used are innovative (e.g. project papers for the final examination). In Austria, however, an LdV project[25] aims to develop a new teaching method with greater involvement of alternative teaching and learning approaches for training in solar technologies and geothermal energy.

In the context of problem groups of the unemployed, in both the Danish production schools and the SEE NOW project from Sweden described earlier the innovation potential lies in the alternative teaching and learning approaches employed. In the Danish production schools, in the case of low-skilled young people, they are intended, in particular, to help motivate them to learn and, as regards content, to provide young people who find learning difficult or are less willing to learn with skills of their own choice, relevant to practice.

In the context of initiatives by the social partners, the agreements of the social partners in Austria, their translation into law, and the importing of the content of the environmental skills into dual training in occupations in the electrical, energy and metal sectors, which is compulsory nationwide, constitute an in-

[25] This will be described in more detail in Chapter 2.3.

novation. Both the process leading to legal implementation and the content of the vocational training measure are innovative.

The innovative aspect of the RSCs is, in particular, the alternative approach to learning or the transmission of knowledge, which acquires additional dimensions thanks to their composition (trade unionists, workers, scientists). The group discussions provide all participants with new knowledge and open up a wider perspective for understanding of environmental issues within and outside the enterprise.

The innovative aspect of the two local initiatives in Luxembourg also lies in alternative learning concepts.

2.3 Use of solar and geothermal energy in Greece, Austria and Denmark – training initiatives for skilled workers and market development

The situation in Greece

a) Training initiatives

In Greece, training initiatives for skilled workers are lagging behind the skills requirements in this growth sector. In the context of initial vocational training, as yet skills linked to this sector are imparted to only a limited extent (Fissamber, 1996).

As yet, there is no special training programme at skilled-worker level for solar technologies and other technologies involving the use of renewable energy sources. If such a programme were to be set up in the context of initial vocational training, this would represent an important innovation for this field of vocational training.[26]

The Technical University of Athens, in cooperation with the First Viennese Solar School, is planning an important innovative measure to develop training in solar technologies in Greece. It is planning to set up a solar school, to provide interdisciplinary training in solar technologies (solar heating and photovoltaics) and technologies for the use of geothermal energy, in accordance with the three training modules developed in the LdV 'European Solar School' project.[27] Theoretical knowledge and practical skills are to be imparted in a well-coordinated and comprehensive fashion for all three areas. The main target group is skilled workers (BFI of Vienna, 1998).

Some Regional Energy Centres[28] hold courses for the unemployed on technologies for the utilisation of renewable energy sources, which contain innovative elements.

Here, aspects that are innovative for Greece are the increased incorporation of provision of practical skills, the interdisciplinary training content (solar heating, photovoltaics, passive solar energy use and, to a certain extent, geothermal energy), and the project paper for the final examination. An important example of an institution holding such courses is the Regional Energy Centre of Macedonia/Thessaloníki. In the past year, it has held six courses on energy-saving measures for buildings and on the use of renewable energy sources. Two courses are currently in progress, and others are planned for the autumn. Fifteen to twenty participants take part in each course. Courses are offered for skilled workers and for those with higher technical skills (TEI or university graduates). The content is adapted to suit the relevant target group in each case, but the courses share the common structure outlined below.

The courses involve 300 hours of classes. Some 200 of these are devoted to theoretical instruction and 100 to practical instruction. An energy audit of selected construction projects is performed in the context of the practical instruction. This involves performing cost/benefit calculations on site for energy-saving measures and installations. In the skilled-worker courses, solar collectors are installed.

[26] Telephone interview with V. Fissamber, Athens/Thessaloníki, 17.8.1999.

[27] Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloníki, 16.8.1999.

[28] The Regional Energy Centres are coordinated by the regions.

While much of the training content covers solar technologies, one day of the course is devoted to an introduction to technologies for using geothermal energy. The course ends with a project paper (performing an energy audit of a building). The main difference between these courses and the usual KEK[29] courses lies in their more extensive practical component and the project paper.

In the context of continuing vocational training, as yet usually only short courses are offered, and there is a lack of comprehensive training measures. Local KEKs occasionally offer continuing training courses on renewable energy sources. They are usually accessible only to unemployed school or university-leavers. These courses last for 300 hours and do not normally involve a final examination. Participants are merely issued with confirmation of participation. The course level depends on the commitment of the institute concerned and the relevant teachers. Generally speaking, it needs to be improved (Fissamber, 1996).

b) Market development

As regards developing the market, Greece leads the EU by a long way in terms of the use of solar energy for heating.[30] Solar systems began to be used more widely to heat water 25 years ago. The large increase in electricity prices in the 1970s and the oil crisis played a crucial part in the sector's rapid growth.[31]

At present, 22% of all Greek households have solar heating installations.[32] On some Aegean islands the proportion is as high as approximately 50%. The area of collectors installed to date is 2.4 million m^2. No comparable market has evolved to date in other EU countries with a similarly favourable climate, particularly Spain and Portugal.

On average, approx. 85% of the annual hot-water requirement can be covered in households with solar systems. Large numbers of new systems are installed each year, although the figures have fallen back slightly in the past few years. It can be assumed that large numbers of new systems will continue to be installed each year in the future (Zervos, 1998).

There is still considerable sales potential in the field of private households. In the context of buildings used for business purposes, the hotel sector constitutes an important customer segment. In new buildings in particular, solar heating proves more cost-effective than conventional fossil-fuel energy sources (in a long-term cost/benefit calculation taking account of the average amortisation term)[33]. Tax concessions associated with the purchase of a solar system are a statutory regulation designed to promote expansion of the solar heating market. A planned law stipulating that pipes should be provided for in the planning and construction of new buildings, to facilitate later installation of solar systems, was not ratified.

Although the annual rates of new installations are now lower than the peak values of ten years ago, the market for installations in existing buildings has not yet reached saturation point. In this context, it is interesting to compare Greece with Cyprus where, with similar climatic conditions, over 60% of all households (92% of all houses)[34] have solar heating installations (Chamber of Trade and

[29] The KEKs are the State-recognised continuing training institutes. Continuing training courses for the unemployed run by the KEKs are co-financed from the public purse.

[30] Both in terms of the overall area of solar collectors installed to date and in terms of the percentage of households with solar heating installations.

[31] The first simple technical system for using solar energy for heating was developed by Archimedes over 2000 years ago.

[32] Telephone interview with A. Dimoudis, Centre for Renewable Energy Sources (KAPE), Athens/Thessaloniki, 16.8.1999.

[33] The amortisation term is dependent on a household's hot-water consumption. In the Mediterranean region, it averages five to six years. It is shorter than this for households with higher consumption (e.g. a family with two or more children), and also for hotel and holiday facilities operating only (or principally) in the summer.

[34] However, the proportion of houses, which constitute the most important market segment for solar systems, is higher in Cyprus than in Greece.

Industry, Nicosia, 1999. Statistics on the solar heating market[35]. Installation of solar systems in new buildings will also be a dynamic market in the long term. In future, installations combining solar water heating and part-solar space heating will play an increasingly important part.[36]

Greece is also the market leader in exports of solar collectors within the Single European Market. Over 50% of all solar systems using solar energy for heating installed in the EU were produced in Greece. The high quality of current products is a fundamental factor in the large market share held by Greek solar collectors. Some years ago, the 'Dimokritos' research centre and the Centre for Renewable Energy Sources (KAPE) effected major quality improvements and expanded the range of possible applications, in close cooperation with the production companies.

There also appear to be considerable opportunities for developing the photovoltaics market in the near future, although here development is only just beginning. As yet, the tax concessions for PV installations, which are around the same level as those for solar heating systems, have had little impact on buying behaviour, in view of the fact that they are considerably more expensive to buy than solar heating systems. The same applies to installations utilising geothermal energy.

The situation in Austria

a) Training initiatives

In the context of initial vocational training for skilled workers, some initiatives have been launched in the past few years involving the provision of skills relating to solar technology. A number of vocational schools and training enterprises provide basic knowledge and skills in this field. Training in sanitary engineering and heating technology actually stipulates provision of this basic knowledge, both at vocational school and in the enterprise. However, the definition in the job profile remains a general one and does not stipulate comprehensive occupation-specific skills training measures. Thus it is essentially up to the individual enterprise or vocational school to take the initiative.[37] The Hallein vocational school in Bundesland Salzburg offers an extensive training programme for skilled workers in the field of solar heating.

Since 1995, the First Viennese Solar School at the BFI of Vienna has offered an important and innovative continuing training programme teaching skills in the field of solar technology and geothermal energy to skilled workers, but also to interested persons in other occupational groups (e.g. graduates of higher technical training institutions and architects). As a continuing training institution for skilled workers in this field, it serves as a model both for Austria and, in conjunction with two initiatives in Germany, for the whole of the EU.

The particularly innovative aspects of the First Viennese Solar School's training programme are the good combination of theoretical knowledge and practical skills and, in terms of content, the comprehensive interdisciplinary training. All the stages in the work (planning, installation, commissioning and inspection of a system) are imparted to course participants in a comprehensive and detailed manner through a combination of various measurement, assembly and laboratory exercises and theoretical instruction. The actual learning content is primarily traditional, but the measurement, assembly and laboratory exercises (particularly in combination) also involve a project-oriented aspect. In addition, to complete the course, a commissioned final examination must be taken and a project paper produced.

The interdisciplinary training in the field of solar technology takes the form of three course modules: *photovoltaics* (electrical engineering), *solar heating* and *heating pumps* (both from the field of heating technology), together with optional modules. These include *EDP interpretation of heat-load calculation, economic*

[35] The data relates to the Republic of Cyprus.

[36] In Austria, in 1998 combination systems of this kind already accounted for almost 50% of all solar installations.

[37] The relevant amendment of the job profiles was the result of an initiative of the social partners.

and ecological construction engineering and home technology, and *automatic refrigeration for air-conditioning and refrigeration systems*. People without prior relevant specialised training must complete the basic modules *heating technology* and *electrical engineering* prior to the main modules. The main and optional modules involve 40-50 hours of instruction and can be covered in the form of a one-week full-time course. The whole course, excluding the basic modules and the project paper, involves 200-220 hours of instruction. In the five years the course has been running to date, almost 500 participants have trained as solar specialists ('Solarteur'). However, far more people have completed one or two of the three course modules or one or more of the optional modules, for the purpose of continuing training in their occupation (Loos, 1997).

As from the year 2000, the BFI of Vienna plans to add to the course the one-week module 'electromobiles', as an additional (optional) module. This module aims to provide theoretical and practical knowledge about e-bicycles, e-scooters and e-cars for the disabled. This module will be the first of its kind to be offered by an Austrian continuing training institute, and will thus constitute another innovative element in the Viennese Solar School's continuing training programme.

The planned introduction of this course unit is a response to the market expansion of these products in the past few years. In addition to private individuals, who are showing an increasing interest in e-bicycles and e-scooters, several municipalities (including the city of Vienna) are interested in buying electrically-driven municipal vehicles following their voluntary accession to the Climate Alliance.[38]

In the past few years, two LdV projects have developed innovative initiatives involving transnational dissemination and application of the Viennese Solar School's modules on the use of solar and geothermal energy, and restructuring of the course content in line with skills requirements at EU level.

In the LdV *'European Solar School'* project (1996-98)[39], training modules for standardised and comprehensive continuing training of skilled workers in solar technologies throughout the EU were developed on the basis of the First Viennese Solar School's course modules. These are already in use in courses in training institutes in two of the partner countries (Germany and Italy). The Greek project partner, the Technical University of Athens, is currently making plans to introduce this continuing training course (BFI of Vienna, 1998).

In the current LdV project, *'model of an expanded heat pump installation and use as a fixed component of initial vocational training'* (1998-2000)[40], the First Viennese Solar School at the BFI of Vienna, Kreishandwerkerschaft Waldeck-Frankenberg and partners from Spain and Greece are developing a training module and learning aid (handbook and CD-ROM) for skills training in use of geothermal energy via heat pumps. This project is also aimed at developing a new learning concept involving increased use of alternative approaches (group discussions, role-play, etc.), to transfer knowledge in the field of solar technology and geothermal energy.

b) Market development

As regards developing the market for renewable energies, Austria is in second place behind Greece at EU level as regards the use of solar energy for heating[41]. Solar heating is very highly developed in the field of low temperatures in particular, and has long been a genuinely marketable commodity. This sector is experiencing steady growth. The Bundesländer are also providing aid to promote this market's rapid expansion. Some 1.7 million m^2 of solar collectors have been installed in Austria to date.

In the 1980s and the first half of the 1990s, self-assembly groups played a crucial part in

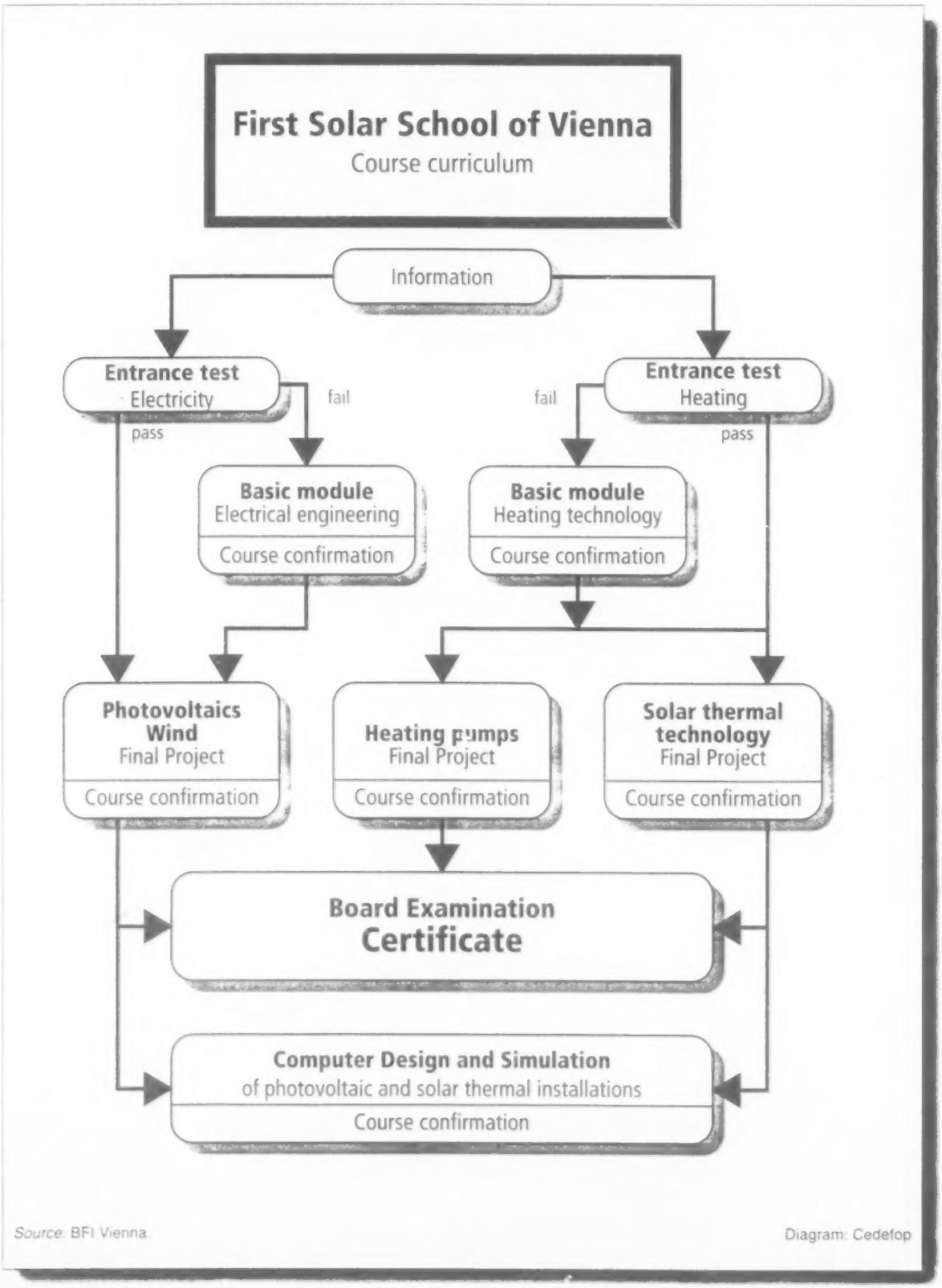
[38] Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloniki, 30.6.1999.

[39] BFI Vienna (First Viennese Solar School) was the product coordinator.

[40] Kreishandwerkerschaft [local skilled tradesmen] Waldeck-Frankenberg is the project coordinator.

[41] Calculated on the basis of the overall area of collectors installed to date.

The modular structure of 'Solarteur' training



Source: BFI Vienna

Diagram: Cedefop

stimulating the solar heating market in Austria. They came into being as the result of an initiative by environmentally aware and committed citizens. In the early years, their activities were largely restricted to the Bundesland Styria, but later on similar initiatives were also launched in other Bundesländer. This citizens' initiative in Styria gave rise to the Renewable Energy Working Party, an organisation which, in addition to many other activities, is currently providing basic training for municipal environment officers for the Land Government of Styria.

Following a brief period of basic training, members of self-assembly groups themselves assemble solar collectors out of the individual components. They then install them, with the aid of a specialist engineer. The groups' basic training usually consists of a one to two-day seminar, normally led by expert members of the Renewable Energy Working Party. In addition to teaching the specific and relatively simple stages involved in assembling the collectors, the training also provides information on possible applications of solar energy and other alternative energy sources in the context of household energy consumption.

Self-assembly groups have declined in importance in the past few years, as thanks to the strongly expanding market, the costs of having solar collectors installed by companies have come down and there is now only a minimal cost advantage.

Photovoltaics, the generation of electricity from solar energy, has not yet really become a marketable commodity. At present, it can only be developed and launched more widely on the market by means of an extensive programme of subsidies. Even if the low operating costs and Land subsidies are taken into account, the investment costs are still significantly higher than the costs of electric energy from traditional power stations[42] (Austrian Ministry for Economic Affairs, Energy Recovery Agency, 1998).

[42] It should be noted that in Austria, almost 65% of electricity production from conventional power stations is based on another 'traditional' renewable energy, water power.

The situation in Denmark

a) Training initiatives

In 1992, the players involved in production and sales of solar collectors introduced innovative measures to stimulate the solar heating market and to provide training for skilled workers. The State energy agency and production and sales companies agreed that only trained fitters with a solar heating certificate may install State-subsidised solar heating. This was designed to ensure that the systems installed functioned correctly. As a result of these compulsory quality criteria, there was a significant increase in activity on the solar heating market.

Since 1993, as a result of these agreements, three-day training courses in solar heating have been held at the technical secondary schools at Søborg and Herning, in cooperation with the DTI, the Danish Institute of Technology. The course provides participants with theoretical knowledge and practical skills, and ends with a written test. To date, 700 fitters have completed this continuing training course and acquired the relevant certificate.[43]

In 1998, the Danish Government decided on a programme of support for the installation of PV systems on buildings in business use. SMEs receive cofinancing of up to 40%. These subsidies have made the installation of PV significantly more attractive to companies.

In order to assure the quality of PV systems, in 1998 the players involved introduced an innovative measure to stimulate the PV market similar to that introduced in 1992 for the solar heating market. The PV industry, sales companies and the authorities signed an agreement laying down compulsory quality criteria both for the products and for training for skilled workers. The aim is to avoid the errors made in the 1980s in the field of solar heating, which severely damaged its image for a time.

The agreement lays down that only trained electrical fitters with a PV certificate may install PV systems. PV systems installed by

[43] Telephone interview with L. Buhl, DTI, Taastrup/Thessaloniki, 17.8.1999.

workers not fulfilling these criteria do not receive State subsidies. A three-day course at a technical school must be completed in order to obtain the PV certificate. The training content involves theoretical knowledge and practical skills, and like the solar heating course, ends with a written test. The course programme covers theory, practical examples and a check list for planning and installing a PV system. These training courses are currently provided at the craft school at Hadsten[44], in cooperation with the DTI. The DTI's Centre for Solar Energy occasionally carries out quality checks on installations.[45]

b) Market development

In the 1980s, following several years of market expansion, the Danish solar heating market experienced a significant decline in installations. This was because systems were not functioning properly. As a result of the agreements on quality assurance described, the declining trend was successfully reversed.

For a number of years, Denmark's solar heating market has experienced fairly significant growth, but its size is not comparable with that of the market in Austria or Greece. Unlike the solar heating market, the market for photovoltaics is still relatively small, though it too is growing.[46]

2.4 Integration of unemployed women and young people into the labour market via environment-oriented continuing vocational training – Sweden and Denmark

Integration of unemployed young people into the labour market in Denmark

Many production schools (produktionsskole) have been set up in Denmark, to promote labour market integration of unemployed low-skilled young people. Young people normally attend the production schools for 12 months, but they can leave the school at any time if they have found a job or a training place. Over 5000 young(er) unemployed people currently attend the 107 Danish production schools.[47]

The innovative aspect of the production schools is the fact that teaching and training do not take the form of a fixed curriculum or modules, but follow outlines, in which training is tailored to students' individual needs. The basic concept involves learning jobs and activities by carrying them out, i.e. learning by doing. At the point when problems arise in a work stage, subject-specific theoretical instruction is provided, with the aim of solving or overcoming the problem. For example, if there is a problem with calculating quantities of wood or different measures for pieces of wood and items of furniture, a mathematics lesson is provided.

Many production schools offer students outlines that are strongly oriented to the environment. For example, a combination of practical training and theoretical instruction is offered in agriculture and forestry, landscape conservation, tourism, the textile industry, and assembly of solar collectors (assembling the components).

The fields of work and activity are often selected in collaboration with companies. Activities are learned and then routinely carried out. This training is often combined with teaching of multimedia skills and languages. Areas of instruction covered by all production schools, to a varying extent, in the context of this problem-oriented approach to learning are Danish, social studies, mathematics and current affairs. Students at many production schools can undergo a period of practical training in (local) public or private companies. In addition, student exchange visits within and outside Denmark are organised as part of the schools' activities. These visits focus on basic academic knowledge, history and culture, so-

[44] Craft schools are part of the technical schools.

[45] Telephone interview with I. Kattnik, DTI, Taastrup/Thessaloniki, 24.8.1999.

[46] Denmark leads Europe in the use of wind energy.

[47] Telephone interview with A. Hiss, Director of the coordination office for production schools, Vejle/Thessaloniki, 10.9.1999.

cial skills, and skills specific to the occupation or sector.

The production schools cover approximately one fifth of their financing requirement through services and by manufacturing products for the local market. The remainder of the funding is provided by the State (Foreningen for Produktionsskoler og Produktionshojskoler, 1997).

Examples of production schools with a strongly environmentally-oriented teaching and training content are the Nature School at Roskilde, the Environment and Nature School at Ringsted, and the Pile Mølle production school at Ishøj.

At the Pile Mølle production school, young people are offered outline training in *nature and environment*, *children and environment*, craft outlines in wood and metal processing, and a tourism outline with a strong element of transnational teaching and training activities (Foreningen for Produktionsskoler og Produktionshojskoler, 1999).

The *nature and environment outline course* covers the routine tasks involved in biological horticulture (growing vegetables and flowers), in the school's own garden, and provides instruction in the theory of biological agriculture and in overcoming all the problems arising in the context of work in the garden (growing, harvesting, storage). An example of activities in the *children and environment outline course* (also known as the *pedagogic outline*) is the planning of a kindergarten, taking account of environmental principles, which was then set up. Participants also undergo periods of practical experience in kindergartens. Theory classes are held on the basis of fundamental environmental correlations, particularly as regards issues relating to child rearing. In the tourism course, practical classes are held in the municipality's own beach area. Theory classes cover local history, tourist services and foreign languages.

In addition to carrying out other activities, the production schools' EU Centre coordinates two projects subsidised by the EU, focusing on training-related transnational youth exchanges.

Integration of unemployed women into the labour market in Sweden

The EU-subsidised project *Sustainable Energy and Environment* (SEE) was aimed at developing and then holding a one-year course[45] for unemployed women.

The particularly innovative aspect of the project lies in the high level of harmonisation of the course content with current skills requirements in the local and regional construction sector, and the strongly project-oriented course design, attuned to the main individual interests. In addition to providing course participants with the appropriate skills required in the construction sector, this was also aimed in particular at supporting increased development of key competences.

In the first part of the project, SEE ADAPT, skills requirements in the local construction sector in relation to energy and the environment were identified in direct collaboration with companies. The structure of the second part, SEE NOW, was developed on the basis of these findings.

In the SEE NOW stage of the project, unemployed women from the construction sector, with university-level training (architects and engineers), were equipped with sound knowledge in the field of energy and the environment in the context of the construction sector. The aim was to equip course participants to work as environmental and energy consultants in the construction sector once they completed this training course.

Once the curriculum had been developed, a one-year pilot course was launched with 13 unemployed women. The course ended in the summer of 1999. The participants in the course had already completed their training, but had little or no professional experience.

The course structure was very flexible and project-oriented. The emphasis was on implementation of individual projects on the basis

[45] The precise duration of the course is 50 weeks.

of the participants' own proposals and interests. It was not uncommon for participants to work in a local/regional enterprise for a short period. Examples of this are work on planning for a 'zero energy house'[49] in the town of Falkenberg and work on an environmental management system in a regional enterprise (Axelsson, 1999).

The recently completed course has not yet been fully evaluated, but five women left the course before it was over because they had in the meantime found jobs as environmental and energy consultants (Axelsson, Halmstadt University, 1999).[50]

2.5 Environmental training initiatives of the social partners in Austria and Sweden

Incorporation of occupation-specific environmental skills into apprenticeship/training in the metal, electrical and energy sectors in Austria

As a result of the steady increase in environmental awareness in the population, an increasing number of customers are interested in environmentally sustainable products and, in particular, in alternatives to traditional energy systems. Environmental skills and competences have therefore become considerably more important in many industrial sectors.

In 1996, following an initiative by the metal/mining/energy trade union (Gewerkschaft Metall – Bergbau – Energie, GMBE) of the Austrian trade union federation (Österreichischer Gewerkschaftsbund, ÖGB), after a number of rounds of negotiations, the social partners agreed that environmental skills should be incorporated into the job profiles of various training occupations in the metal and electrical sectors.

The first agreements were concluded in February and March 1996 and related to incorporation of environmental skills into the job profiles of the training occupations *communications electronics engineer, sanitary and heating engineer*, and *production engineer*. In subsequent years, there followed agreements by the social partners for other occupations and an agreement on incorporating general environmental knowledge into all occupations in the metal, electrical, energy and related sectors.

The innovative aspects of this initiative by the social partners are the commitment expressed by the social partners and the specific agreements made by them on incorporating environmental skills into the job profiles of the sectors concerned. However, other innovative aspects are the content of these vocational training measures and, in particular, the fact that following their translation into law, they are obligatory for both vocational schools and enterprises. Similarly to the situation in Germany, under the dual system in Austria, teaching of the skills laid down in the job profile is compulsory for apprenticeship/training (Loos, 1996).

The relevant amendments to the law in accordance with the social partners' recommendations have now been implemented by the Ministry of Economic Affairs, which has competence in this field.[51]

The provision of general environmental knowledge and global environmental correlations is now a compulsory feature of apprenticeship/training in all training occupations in these sectors. For four occupations, the provision of occupation-specific environmental content during training is also a compulsory feature, both in vocational schools and

[49] This means that the all the energy consumed by the house originates from renewable energy sources.

[50] Harriet Axelsson was the coordinator of the SEE NOW project and presented an initial interim report on the course to the *Conference on Environmental Education and Training in Europe* (European Commission) on 4.5.1999.

[51] In Austria, agreements of the social partners carry great weight. Joint recommendations by the social partners in the field of apprenticeship/training are usually translated into law by the Ministry of Economic Affairs.

in enterprises[52]. For the training occupation sanitary and heating engineer, for example, one of the four occupations concerned, this means incorporating basic knowledge from the fields of solar heating, photovoltaics and geothermal energy into the training.

However, the definition in the job profile does not stipulate that extensive job-specific skills training measures must be implemented. Thus the form the initiative takes is essentially left to the individual enterprise or vocational school. However, it is compulsory for every enterprise and vocational school to teach general environmental knowledge and basic environmental correlations.

The main objectives the trade unions expect to achieve by means of these regulations are improved job security as a result of new orders and tasks and, in some cases, the creation of new jobs. The industrial associations focus on more efficient customer service from skilled workers with energy-saving products and services. Only with their aid can industry optimally open up new markets for environmental technologies and products (Loos, 1997).

Research and Study Circles for corporate environmental protection in Sweden

The main innovative aspect of the Research and Study Circles (RSCs) lies in the alternative approach to learning or the transmission of knowledge, which acquires additional dimensions thanks to their composition (trade unionists, workers, scientists). The group discussions provide all participants with new knowledge and open up a wider perspective for understanding of environmental issues within and outside the enterprise.

University scientists and workers meet in the RSCs at regular intervals (usually once a month) to discuss environmental topics (e.g. local or corporate environmental problems). The group draws up new proposals for improving local or corporate environmental protection. The participation of a scientist in the group's meetings is designed to bring in new findings and possible solutions. The exchange of opinions and the discussions provide workers with an extensive and deeper understanding of corporate environmental protection and global environmental correlations. The discussions also encourage the workers' communication skills and make them better able to take action and solve problems on their own account. Thus the knowledge and skills provided by the RSCs go beyond environmental topics and corporate environmental protection in the narrower sense of the words.

In the 1970s, the RSCs dealt in particular with occupational health and labour law. In the 1980s, the RSCs increasingly disappeared, because the universities lost interest in working with them.

The RSCs were not really reborn until 1997. Their rebirth was triggered by the LdV'Environmeth' project when scientists from the University of Lund, trade unionists from the LO and workers from the KappAhl company initiated new RSCs. A crucial part was played by the good cooperation from the local management of the KappAhl company in Lund[53].

However, the close cooperation between scientists and blue-collar workers in the RSCs'discussions has consequences going beyond learning and changes of attitude on the part of the workers. It also equips scientists with values derived from social experience and affects the selection of research topics for projects (Axelsson, 1999).

2.6 Local environmental education and training initiatives in Luxembourg

Luxembourg offers no examples relevant to the four subject areas addressed above. Two regional examples have therefore been selected for description. The two local initiatives

[52] Definition in accordance with job profile: *basic knowledge of enterprise measures relating to sensible use of energy in the area of work relevant to the occupation.*

[53] KappAhl is a commercial chain with a workforce of 2300.

in Luxembourg described constitute important innovations for the country itself, but in comparison with the other examples, they are less important in the context of transfer to other States.

The technical secondary school at Dübelingen implemented a model initiative at local level, in cooperation with the local authority. Within the framework of an EU-subsidised project, electrical fitters were taught general and job-specific environmental skills during their training.

The particularly innovative aspect of the project is that the interdisciplinary and subject-specific training content it developed is used in different subjects at this school (workshop classes, electrical engineering, electrical systems, environmental and health education, language classes). As teacher-centred teaching dominates education even more strongly in Luxembourg than in some other Member States, this interdisciplinary approach represents an important experience for the students and teachers involved in the project.[54]

The medium-sized company Ewald Giebel Luxemburg GmbH (steel band galvanising plant with 116 employees) has ISO14000 certification and implements internal and external continuing training programmes for its employees in the field of environmental protection.

The in-house continuing training measures in particular are innovative, as regards the structure of both their organisation and their content. Every three months, a workshop lasting several hours is held in the workplace, coordinated with the shift changeover to ensure that all workers can attend. The content of these workshops covers the specific environmental protection problems arising in the relevant workplace, such as dealing with wastes or safety measures for dangerous work processes. General knowledge of environmental correlations and environmental protection measures is deepened by means of company excursions twice a year to other companies in the same sector. Around 50% of the workforce participate in the excursions. The Chamber of Commerce arranges other external continuing training events (Kress, 1999).

3. Skills requirements in environmental vocational training – transfer of innovative good practice

3.1 Skills requirements in environmental vocational training at skilled-worker level in the use of renewable energy sources

3.1.1 Skills requirements in the use of renewable energy sources at skilled-worker level

The environmental knowledge required to exercise an occupation can basically be divided into two fields:

1. general knowledge relating to environmental problems, environmental correlations and environmental cycles;

2. occupation-specific knowledge to the extent necessary for the relevant job.

Every environment-oriented job involves a fundamental need for general knowledge about environmental problems, environmental correlations and environmental cycles. The importance and fundamental relevance of general environmental knowledge should not be underestimated. A lack of understanding of environmental correlations and cycles reduces or even completely prevents efficiency in environment-oriented job activities. They are of particular importance in customer advisory services. For example, if a skilled worker in a firm of fitters or electricians does not possess the appropriate level of environmental understanding, he will not be able to

[54] Pauly M. et al., 1998. Strom sparen – Umwelt wahren. Ein Umweltprojekt für Elektroinstallateure in der Ausbildung. http://www.ltnb.lu/webmast/web/LTNB_Projets/stromsparen/index.html

advise customers interested in ecological products and services efficiently.

An example from Austria, which makes the negative consequences of inadequate environmental knowledge particularly clear, is that of the motor vehicle mechanic, in relation to the use of biodiesel as an alternative fuel for cars. In Austria, several RME plants[55] have been in operation for some years in the four Bundesländer (Upper Austria, Lower Austria, Burgenland and Styria), producing rapeseed oil diesel. These Bundesländer now have an efficient sales network with many filling stations selling biodiesel.

When interested customers ask if biodiesel is suitable for their car, the majority of motor vehicle mechanics in regional workshops reply that this fuel can only be used for tractors. In addition to the lack of *job-specific knowledge* (biofuel can be used in most newer car types), many mechanics lack *general environmental knowledge*. They do not know about the links between natural CO_2 and the biodiesel cycle. They do not know the fundamental difference between emissions resulting from fossil fuels and those resulting from biodiesel. They do not know that RME diesel represents a renewable energy source.[56] The result of this lack of knowledge is that customers interested in biofuel are informed that this is no better for the environment than fossil fuels (Loos, 1997).

Thus a general understanding of the environment and knowledge of environmental correlations and cycles constitute the basic knowledge on which specific environmental knowledge important to the occupation concerned can build. They are important to all occupations, as all jobs exert specific influences on the environment and environmental cycles. Their importance will increase further in future.

[55] Plants producing rapeseed oil methyl ester diesel.

[56] The difference lies in the fact that the CO_2 released by biodiesel was previously assimilated from the atmosphere by the rape plant during its growth process, and the atmosphere is therefore not subjected to additional CO_2 accumulation.

The skills required in the context of use of solar energy can be divided into two areas. In addition to knowledge and skills relating specifically to *solar heating*, this field requires basic knowledge of hydraulics. In *photovoltaics*, in addition to knowledge and skills relating specifically to this field, a basic knowledge of electrical engineering is required.

In the context of use of geothermal energy[57], in addition to specific geothermal knowledge, the skilled worker must have a knowledge of and skills relating to hydraulics and electrical engineering.

In order to provide for quality assurance of products and services in the field of solar technologies, it is very important, at skilled-worker level, for general environmental knowledge and the appropriate occupation-specific basic knowledge to be imparted in initial vocational training. This relates to knowledge of environmental correlations, solar-heating knowledge and skills in dual training for fitters (gas/water fitters) and photovoltaics skills in electricians' training (electrical fitters). It is also desirable for trainee fitters to be equipped with knowledge relating to installing heat pumps. This is a relatively sophisticated task, as it requires not only considerable knowledge of hydraulics, but also electrical knowledge. Skills training should consist of theory classes and practical sessions in an enterprise or training workshop. In continuing vocational training, skilled workers in enterprises in these sectors selling and installing solar-technology products should acquire more extensive skills via continuing training courses.[58]

Environmental skills can also be divided into the fields of reactive and preventive environmental protection. Knowledge on the subject of environmental protection exclusively limited to reducing local environmental pollution

[57] Minimal-depth heat pump installations primarily involve utilisation of solar energy.

[58] Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloníki, 30.6.1999.

that has occurred or to efficient handling of wastes can be classified as reactive environmental protection, in terms of content. Environmental knowledge which also involves preventive measures for avoiding waste, saving energy or using alternative energy sources can be classified as preventive environmental protection. Only in principle can the two fields of skills be completely separated. However, it should be borne in mind that an understanding of preventive environmental protection also includes basic knowledge of reactive environmental protection, while it is possible to have a basic knowledge of reactive environmental protection dissociated from the context of preventive environmental protection (although this is not desirable).

3.1.2 Transfer of innovative good practice

In Austria, the First Viennese Solar School offers a comprehensive and interdisciplinary programme of continuing vocational training in solar technologies for skilled workers and graduates of higher technical training institutions. The establishment of a similar training institution in Greece would be very significant, as the solar energy market is already highly developed, but continuing training initiatives for skilled workers are lagging behind market development. The University of Athens, partner in the LdV 'European Solar School' project, coordinated by the First Viennese Solar School, plans to set up a training establishment of this kind. In this context, the heating pump module in particular would be completely new to Greece. This field is suffering even more than solar energy utilisation from the absence of a comprehensive continuing training programme for skilled workers.

It would also be desirable for a training establishment modelled on the European Solar School to be set up in Denmark. Both the full 'Solarteur' training and training in one of the modules would open up new prospects for interested skilled workers. Workers who complete the three-day courses in solar heating and photovoltaics in particular could use this continuing training programme to extend their knowledge and skills.

A transfer of innovation to the Member States bordering the western Mediterranean (particularly Spain and Portugal) could play a major part in developing the considerable market potential. Well-qualified skilled workers would awaken customers' interest and trust by giving them expert advice and offering efficient installation. State or regional subsidies similar to those in Denmark, offered on condition that the solar fitters possess the appropriate course certificate, could provide crucial support for market development and for the implementation of vocational training measures.

In Sweden, it remains to be seen how the market develops and whether it is worth making this continuing training provision for the relatively small market. The university-level initiative launched in August 1999 could help to stimulate the market. Given the small size of the market for solar technology in Luxembourg, it is not worth implementing a European Solar School there at present.

3.2 Skills requirements for environmental vocational training measures to integrate specific target groups into the labour market

3.2.1 Skills requirements for environmental vocational training measures to integrate low-skilled young people and unemployed women into the labour market

Environmental training and continuing training courses can help to better integrate young people with few skills into the labour market. (Continuing) training courses for unemployed young people and younger participants in the labour market should be geared to practice as much as possible, although knowledge of theory in the context of the planned occupation should also be imparted. Occupational fields particularly suitable for this group are agriculture and forestry, landscape conservation, eco-tourism, wood-processing and the production of environmental engineering products. Waste disposal and recycling activities are another possible field, provided that measures are in place to protect workers' health.

3.2.2 Transfer of innovative good practice

Environmental vocational training plays a key part in the Danish production schools. The transferability of this model to other Member States in which no similar initiatives exist would result in new job prospects and motivation for low-skilled young people. The issue of financing, however, is the main stumbling block. The costs that public establishments would incur could be reduced through increased cooperation with local/regional enterprises. At the same time, direct sales of products and services to customers should be increased.

The increased revenue anticipated from direct sales could motivate young people to learn how to make more complex products or to offer more extensive services. The high level of motivation and the good working atmosphere in the Danish production schools show that the conditions for implementing this project would be good. Consequently, the concept of the production school as a training workshop and profit-oriented enterprise for marginalised young people could be expanded somewhat. Legislative provisions similar to those in Denmark would also have to ensure that the schools were permitted to undertake business activities on this scale, and that the young people themselves benefited from them.

With regard to the Swedish SEE NOW project, similar sector-specific initiatives for unemployed female graduates would help to increase their job-related skills and competences and to reduce unemployment. The content of the project-oriented approach in this pilot project should be attuned to the skills requirements in the relevant country or region.

4. Creation of a new employment volume and new jobs at skilled-worker level in the environmental sector

The new fields of activity and markets in environmental protection and environmental technology have created a considerable quantity of employment, and this is set to expand further in future.

However, this development does not always mean that the net volume of employment in an enterprise, a region, or even the economy as a whole increases on the same scale, as sometimes it involves 'only' a shift from work on less environmentally sustainable products and services to work on more environmentally sustainable products and services: the increase in the volume of employment as a result of environment-oriented activities does not primarily create new jobs, but makes existing jobs more secure as a result of the increased utilisation of the enterprise's capacity (Loos, 1997).

The extent of the impact on employment varies from one field of environmental technology to another and one sector to another. Furthermore, the short and long-term effects may also be just as varied, for example the effects and consequences on individual industries and industry as a whole in respect of workers with different skills. Jobs are also dependent on the mode of functioning and flexibility of markets and the intensity of competition on them. Since the impetus for strengthening environmental protection does not come only from market signals, its impact on employment is also determined by the framework conditions of national and international environmental policy (Pfeiffer et al., 1999).

It is not possible for this report to discuss these issues in detail or to provide quantitative data documenting the scale of the effects on employment for the individual environmental technology sectors. At the time when this report was completed, relatively little quantitative data was available in this field. In the next stages of the Cedefop project 'Observation of innovations in vocational training', the data currently available will be compared and assessed.

Three key areas of environmental technology at micro-level will be discussed in more detail below. The aim is not to conduct an overall assessment of these areas, but rather to indicate the most important issues to be taken into account in a comprehensive analysis.

Solar technologies

A firm of fitters or electricians that expands its service range to include solar technologies acquires new markets and utilises the capacities of its employees more fully as a result of new orders. The jobs concerned become more secure. The enterprise profits financially from the new orders and at the same time acquires a new segment of the market, which helps to ensure both that the enterprise is profitable and that employees' jobs are secure in the longer term. Only rarely does the net volume of new employment in smaller business enterprises in this sector increase as a result of these new activities to such an extent that new employees have to be taken on. However, in larger firms in particular, production and sales of solar collectors can, with an appropriate increase in demand, create a considerable potential for new jobs (Loos, 1997).

An increase in demand would also create new jobs in solar collector production. The number of jobs would depend on the size of the increase in sales. So far an important production market has evolved in Greece, within the EU, and in Cyprus, one of the candidates for accession (Nicosia Chamber of Commerce, 1999, Statistics on the solar heating market).

Environmental protection within companies (corporate waste and recycling management)

As a result of new statutory regulations in various Member States, corporate environmental protection has greatly increased in importance, particularly as regards larger companies. Companies are also increasingly willing to implement environmental management systems voluntarily, in order to improve their image in the public eye and with customers, and to be more economical in their use of resources and thus save the company money.

This trend has generated a quantity of new employment in many companies. Occasionally this has also resulted in the creation of new jobs. However, the emphasis is mainly on creating new tasks and activities for existing jobs, rather than actual job creation. Company surveys in Austria have shown that in a medium-sized company a company environment and waste officer spends on average 20-25% of his working hours on tasks associated with this function. The industrial sites of large companies usually have one (or sometimes two) environment and waste officer(s), carrying out this activity as a full-time job, while their deputies spend only part of their working hours on it. Irrespective of whether the activities are full-time or part-time, these work duties constitute a new net quantity of employment, since they do not replace other tasks or activities either within or outside the company (Loos, 1997).

Local-authority advisory activities on the environment and waste

In recent years, in many Member States there has been a substantial increase in the importance of advice on the environment and waste for local inhabitants from advisers appointed by local authorities. Innovative legislative measures, such as those in the Austrian Land of Styria, where all municipalities with over 30 000 inhabitants have a statutory obligation to employ an environment and waste adviser (to advise citizens and those managing local-authority activities in this field), help to increase the numbers of those active in this area. Irrespective of legislative measures, however, increasing numbers of local authorities are showing an interest in employing such advisers voluntarily, as a contribution to the Climate Alliance (Loos, 1997).

Local-authority and private enterprises in the waste disposal and recycling sector

In many Member States, local-authority waste disposal has broadened its traditional waste collection activities to include separating waste into types (paper, glass, metal, residual and hazardous waste). However, this has created virtually no new jobs.

On the other hand, many new jobs have come into being in recent years in private recycling enterprises and, in some cases, local-au-

thority[59] recycling enterprises. Even in Member States where expansion of this sector has already made great strides, there is still potential for development in the shape of types of recyclable waste not yet, or only very rarely, included in the recycling process. In Austria, for example, there are 240 private enterprises whose sole activity is recycling. They employ 1,500 people. However, there are many other enterprises manufacturing both new and recycled products (Austrian Ministry of Economic Affairs, Energy Recovery Agency, 1999).

Only in some cases do the new employment that has been generated in this sector and the new jobs that have been created constitute net gains, as in the business and product cycle they reduce the quantities of secondary materials (paper, glass, metal, synthetics) and hence also the work input associated with their production. However, it would be wrong to equate this completely with the resulting loss of employment volume. Although there is a reduction in production of secondary materials (paper, glass, some types of metal, some types of synthetics) from raw materials, this being replaced by production of secondary materials from recycled wastes, the numbers of work activities generated by recycling are higher than the numbers associated with the conventional production process.

However, only some of the additional volume of work is generated in production itself, as many production processes operate automatically. Other linked activities are often more important, in particular administrative office work and transport. This effect is intensified by the numerous enterprise start-ups in the recycling sector and the predominantly small-scale industrial structure in this sector in some Member States. An important growth sector has come into being in this field, but as yet no other enterprises have closed as a result. It can be assumed that new jobs will continue to be generated in this field in the future. There is a particularly significant potential for new jobs and a new employment volume in this sector in Member States which is only just setting out along this path.[60]

However, without a doubt, quite apart from the important ecological dimension, the primary importance of the new environmental work activities and markets lies in the increase in the utilisation of workforce capacities in the companies concerned, as a result of innovative products and new services, and hence in improved job security and support for the dynamics of business processes.

5. Conclusions

The structure of vocational training in the environmental sector varies in the countries discussed. The specific national framework conditions of the vocational training systems have also given rise to different approaches to environmental vocational training in the individual countries. However, the development trends, initiatives and provision structures of environmental vocational training in the individual countries also share many common features and similarities.

Denmark and Austria in particular have adopted similar approaches to incorporating environmental skills into apprenticeships/traineeships. In both countries, an attempt is made to achieve blanket incorporation of environmental skills into the dual system.

In Austria, in the metal, electrical and energy sectors, the social partners in particular have launched major initiatives. However, agreements by the social partners and subsequent legislative action, as in Austria, are tailored to the specific structures of the dual training system, and if they were to be transferred to other Member States, they would have to take account of the specific training structures in the country concerned.

EU directives, EU training-subsidy programmes and project partnerships subsidised

[59] In many EU Member States, the majority of recycling is carried out by private enterprises.

[60] Interview with T. Schulze-Bauer, Association of Austrian Waste Disposal Companies, Vienna, May 1996.

by the EU help to achieve an increase in training initiatives with similar basic structures in the Member States. An example of this is the EU directive on authorised persons for hazardous goods, which Member States must incorporate into national law within a set transitional period. Among other things, the directive lays down comprehensive training measures in accordance with common criteria. However, the form specifically taken by the relevant training courses is laid down at national level. 'Synchro', an LdV project managed by the BFI of Vienna (with partners from Greece, Germany and the United Kingdom), is currently attempting to develop standardised transnational modules for training for authorised persons for hazardous goods.

In the field of training for skilled workers in solar technology and geothermal energy, Austria's First Viennese Solar School offers interdisciplinary training providing theoretical content and practical skills on a large scale. In Greece, the market leader for solar collectors (both at national level and in terms of exports within the Single European Market), some specialised institutions of higher education offer a fairly comprehensive training content in this field, but in the context of initial and continuing vocational training for skilled workers, the training offered primarily consists of training measures for the unemployed in the form of short courses. These courses do not usually involve a final examination.

If the BFI of Vienna's training concept and the interdisciplinary solar-technology training course developed by the LdV 'European Solar School' project on the basis of the BFImodules were to be transferred to Greece and implemented there, this would considerably raise the skills level of skilled workers in this field. The relevant skills requirement essentially exists. This applies both to current tasks and to innovative products and services in this field, such as solar heating/part-solar space heating combination systems, or energy audits for buildings. Depending on the main skills requirement, the BFImodules could be offered individually or in combination, as interdisciplinary training. There is currently a greater need for the former, but interdisciplinary training in solar heating, photovoltaics and geothermal energy is becoming increasingly important. The current LdVproject, 'model of an expanded heat pump installation and use as a fixed component of initial vocational training', under the project management of Kreishandwerkerschaft Frankenberg (with partners from Austria, Greece and Spain), could also help to ensure that appropriate initiatives for initial vocational training of skilled workers are launched.

The one-year Master's course, 'European Solar Engineering School', introduced at a Swedish university for the first time in September 1999, shows that solar-technology training initiatives are also being launched in Member States where market development is at a very early stage.

In 1992, in Denmark, the State energy agency and production and sales companies agreed that only trained fitters with a solar heating certificate may install State-subsidised solar heating. This was designed to ensure that the systems installed functioned correctly. The three-day training courses in solar heating have been available since 1993 at two technical secondary schools, in cooperation with the Danish Institute of Technology. A similar agreement was concluded in 1998 to assure the quality of photovoltaic installations.

The Danish production schools offer special training courses for unemployed young people (and younger labour market participants) and, in particular, specific problem groups among them. These courses are designed to (re)activate or reinforce participants' motivation to learn. Particular use is made of alternative approaches to learning to impart knowledge and skills. Thanks to cooperation with industry and sales of their own products and services, the production schools are able to cover some of their operating costs themselves. It could be made possible or easier to transfer this model to other countries by means of efficient cooperation with local companies and sales of the school's products and services bringing in the greatest possible return for the school and the young people themselves.

The SEE NOW project, designed to provide unemployed women graduates with sound training qualifying them to work as environmental and energy consultants, stands out in particular by the way in which it has coordinated the course content with the skills requirement in local and regional companies and the project-oriented learning and work. As a result of cooperation with industry (periods of practical experience in companies and collaboration with companies in the context of projects) during the pilot course, the training was even more strongly geared to application-oriented content. At the same time, the project-oriented approach was designed to help participants to develop increased competences in the areas of independent planning, working and decision-making. In addition to the strong emphasis on the current needs of industry for subject-specific skills, the fact that this course initiative imparts these core or key skills gives it an additional fundamental dimension as regards developing the skills and competences of the unemployed women participating. Similar initiatives could help to increase the integration of unemployed graduates in this sector in other countries and regions, particularly if the course content is effectively tailored to local and regional skills requirements.

Increased use should also be made of alternative forms of teaching and learning in the provision of knowledge and skills. Project-oriented learning and work in small groups are particularly suitable here. However, this concept must be adapted, as regards content and skills level, to suit the different training courses. A purely project-oriented approach, as practised in the Danish production schools, is a suitable form for this skills level. In the SEE NOW energy-consultant training, despite the obvious success of the course, the project manager believed that not all the effects of the absence of any signs of a rigid course structure were positive. Therefore the aim should be to achieve a balance in the forms of provision, designed in accordance with the specialist field and skills level, but also including different and, in particular, alternative forms of learning. Furthermore, for many initiatives it is important to strongly integrate the learning of practical skills with theoretical knowledge, in a well-coordinated combination.

The transfer of innovative products developed via transnational projects and project partnerships can play a crucial part in improving the skills of employees in the Member States. It is not uncommon for LdV projects to develop modules and learning aids that could considerably increase the efficiency of initial or continuing vocational training in particular occupations or groups of occupations, only for them not to be implemented in vocational training owing to an inefficient dissemination strategy.

The commitment of the social partners to disseminating products developed in LdV projects can result in increased implementation and application of these innovative practices in vocational training, but this commitment needs to be appropriately encouraged, inter alia by the project managers. In particular, trade unions and employers' associations should also be addressed at the relevant sectoral or occupational-group level, and they should be actively integrated into the dissemination strategy. Higher project budgets and compulsory documentation of the success of an efficient dissemination strategy can open up prospects for improved implementation of project findings.

The LdV projects on improving skills in initial and continuing vocational training for skilled workers in the metal, electrical, energy and transport sectors discussed in this report are good examples of commitment on the part of the representative institutions of employees and employers both to project management and to the dissemination of the results.

Bibliography

Axelsson H., Halmstadt University, 1999. *Energy and Environment with Women as Designers.* Report on project presentation to the 'Conference on Environmental Education & Training in Europe'. European Commission, Brussels, 3 and 4 May 1999

Axelsson H., Halmstadt University, 1999. *Vocational Training in the environment related sectors, national report Sweden.* Report for Cedefop

BFI Vienna, 1998. *Europäische Solarschule. Euro-Module zur solartechnischen Qualifizierung.* Endbericht zum LdV-Projekt

Centre for Renewable Energy Sources (KAPE), Athens 1999. *Data on thermal solar installations*

Dalenbäck J., 1998. Großanlagen prägen den Norden Europas – wohin führt die schwedische Solarzukunft? *Erneuerbare Energie 4*, pp. 29 ff.

Danielsen O. et al., 1995. EXPRESS PATH. *Pathways from Small-scale Experiments to Sustainable Regional Development*, Summary report

European Commission, 1997. *Environmental education in the European Union.*

European Commission, 1998. *Employment and Environment: Principles and Recommendations from the European Consultative Forum on the Environment and Sustainable Development.* http://europa.eu.int/comm/dg11/forum/employ.html

European Solar Engineering School. http://www.eses.org

Fergemann H., DTI, 1996. *Changing occupations, new occupations, the environment area.* Report for Cedefop

Fissamber V., 1996. *Changing occupations, new occupations, the environment area.* Report for Cedefop

Foreningen for Produktionsskoler og Produktionshojskoler, 1997. *Die dänischen Produktionsschulen.* Vejle, 1998

Foreningen for Produktionsskoler og Produktionshojskoler, 1999. *Produktionsskolerne 1999.* Vejle

Gay C., 1998, Cedefop. *New qualifications and training needs in environment-related sectors – Synthesis of studies carried out in Austria, Belgium, Denmark, Spain, France, Greece, Italy and the United Kingdom*

Geers F., 1998, Cedefop. *Identifier et observer l'innovation dans le domaine de la formation professionnelle*

Kress O., ÖIBF, 1999. *Umweltbezogene Berufsbildung in Dänemark und Luxemburg.* Report for Cedefop

Kress O., ÖIBF, 1999. *Umweltbezogene Berufsbildung in Österreich.* Report for Cedefop

LO, The Danish Confederation of Trade Unions, 1998. *Employee Participation – a Resource in Environmental Management.* Copenhagen

Loos R., 1994. *System und Intelligenz, Systemintelligenz in komplexen Gesellschaften* (systemtheoretischer Exkurs in: Gewerkschaftsorganisationen und Gewerkschaftspolitik in Spanien, 1975 – 94). Frankfurt: Europäischer Verlag der Wissenschaften

Loos R., 1997. Umweltberufe und Umweltqualifikationen – Schaffung von neuem Volumen an Erwerbsarbeit in den Bereichen Umweltschutz und Umwelttechnik. *SWS-Rundschau 4*, pp. 473 ff.

Loos R., 1998. *Das EU – Recht im betrieblichen Umwelt- und Gesundheitschutz.* Report for BFI Vienna

Loos R., 1999. Cedefop INFO, 2/99. Identification and Dissemination of Innovation

Loos R., 1999. Cedefop INFO, 3/99. VET innovations in the use of solar energy

Loos R., ÖIBF, 1996. *Berufe im Wandel, neue Berufe, der Umweltbereich.* Report for Cedefop

Nicosia Chamber of Commerce, 1999. *Statistics on the solar heating market*

Österreichisches Wirtschaftsministerium. Energieverwertungsagentur, 1998. *Erneuerbare Energie in Österreich*

Papatheodossiou T., 1999. *Vocational Training in the environment related sectors, national report Greece.* Report for Cedefop

Parsons T., 1975. *Gesellschaften. Evolutionare und komparative Perspektiven*. Frankfurt

Pauly M. et. al. *Strom sparen – Umwelt wahren. Ein Umweltprojekt für Elektroinstallateure in der Ausbildung* http://www.ltnb.lu/webmast/web/LTNB_Projets/stromsparen/index.html

Pfeiffer F. et al., 1999. *Beschaftigungswirkungen des Ubergangs zur integrierten Umwelttechnik*: Physica / Springer

Stry-Hipp G., 1998. Solarwarmenutzung in Europa. *Erneuerbare Energie 4/98, pp.4 ff.*

Technical University of Denmark, 1999. *MSC Environmental Engineering Programme at the Technical University of Denmark*. http://www.adm.dtu.dk/studier/studin/mpee/index_e.html

Weiss W. Solarenergienutzung in Osterreich. *Erneuerbare Energie 4/98*, pp. 10 ff.

Willke H., 1993. *Systemtheorie entwickelter Gesellschaften*. Munich: Juventa

Wirtschaftskammer Osterreich, 1999. *Solarmarkt in Osterreich 1999*. Vienna: ARGE Umweltenergie

Wirtschaftskammer Osterreich, 1999. *WIFI-Kursbuch*

Zervos A., 1998. *Proceedings of the National Conference 'Application of Renewable Energy Sources'*. RENES-NKUA

Company-based learning in the context of new forms of learning and differentiated training paths

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Abstract

It is widely agreed that education and, in particular, vocational training should enable young people to design their careers and their working and employment conditions. Individuals must learn to cope with open processes and uncertainties and to take decisions on their educational pathways. In a general perspective, vocational training has to be extended to cover larger periods of working life. The continuous updating of knowledge and abilities is a challenge for an increasing number of workers.

The results of OECD's VOTEC project reveal a common educational strategy in a number of countries, by increasing both 'flexibility' and 'differentiation', e.g. by creating fluid transitions from training to work or to continuing training and by implementing approaches to improve transparency on training opportunities. These are the strategies which have to be considered when creating an autonomous and equivalent vocational education and training (VET) system.

At the enterprise level, principles of linking learning and work are gaining ground to improve the quality and development of vocational training. Approaches to connect work and learning, to integrate experiential learning, informal learning and intentional learning and to foster self-organised learning are becoming important.

New forms of organisation, work and learning within enterprises could improve and link in-company learning with school-based learning and higher education. The concept of 'learning enterprises' leads to more demanding forms of learning than is the case with traditional enterprise training activities. However, the relevance of firm-based learning for the modernisation of vocational training and for a closer link between education and work has always to be measured against its realisation of new forms of learning and whether these are considered as a core competence of firms. This includes knowledge management, i.e. the question of how to identify new knowledge and how to integrate it in the production process.

Table of contents

Overview 393

1. Framework conditions for forms and quality of learning 394
1.1 Individualisation and differentiation of vocational training and development paths – specific national examples 395
United Kingdom 395
The Netherlands 396
France 398
Germany 399
Denmark 400
1.2 Starting points for an independent and equal vocational training system 402

2. Models and forms of company-based learning 406
2.1 Work-related learning models 407
2.1.1 Learning by working in the actual work process 407
2.1.2 Learning via instruction, systematic instruction in the workplace 408
2.1.3 Learning via integration of experiential learning and deliberate learning 408
2.1.4 Learning via exploration and practical training 409
2.1.5 Learning in simulated work or production processes 409
2.2 Forms of company-based learning geared to the future 410

3. Reorientation of learning and the changing role of training staff 412
3.1 Integration of experiential learning and deliberate learning 413
3.2 Learning organised by the individual in new forms of work and learning 417
3.3 Changing tasks and role of training staff 420

4. Summary: in-company training work as an interface between the vocational training and employment systems 423

Bibliography 427

Overview

It is widely agreed today that education and, in particular, vocational training must put young people in a position to play an active part in shaping their own career development paths and their own working and employment conditions. For, in times of rapid change, it becomes ever harder to predict the future with any certainty. Hence those concerned must learn to deal with open-ended processes, to cope with uncertainty, and to take decisions about their own training paths. Vocational training will increasingly extend across lengthy phases of working life, in order to cope with the challenge of ever greater pressure of competition in trade and industry, science, technology, communications and cultural life, because constant updating of knowledge and skills is a requirement faced by ever greater numbers of workers.

This need for lifelong learning, which is currently arising in similar form in all advanced industrial nations, is also becoming increasingly important in the debate on the restructuring and reform of national vocational training systems in Europe. In this context, comparable problems are crystallising, over and above particular characteristics of national vocational training systems. It can currently be seen that in many European countries a formal initial qualification is becoming increasingly important for access to the labour market; its level is also rising, and its content is becoming broader. However, rapid changes in economic, technical and social conditions are making it difficult to make vocational training 'fit' employment. National standards are too general for this, or they are adapting too slowly to be able to meet the relevant requirements in good time. On the other hand, vocational training is unattractive because of inadequate career paths. This brings with it the risk of further reinforcement of trends towards 'mediocratic' training.

This is because as long as young people or young adults fear that entering initial vocation training will take them into a blind alley, as regards other training options and future working careers, they will prefer to follow academic educational paths. Conversely, if education continues to expand, companies will tend to avoid a worsening of the standards of potential applicants by giving preference to young people with a higher level of general educational qualifications, as very clearly demonstrated, for example, by the trend in France (cf. Koch 1998a, p.336).

To counter these trends towards 'mediocratic' training, which in the past were not only widespread in France but have also had an effect in other industrialised countries in Europe, there is an urgent need to replace existing vocational training structures and develop new ones. The question is whether this transformation process can be controlled by policy, i.e. channelled in such a way that the traditional links between the systems of general education, vocational training and employment can be broken down and that stabilisation and development of vocational training can be assured.

In a project that ran from 1991 until 1994, 'The changing role of VOTEC', the OECD carried out a detailed study of the question of the capacity of vocational training systems to respond to socioeconomic structural change. Although the OECD project was essentially based on national reports, but not on systematic comparisons, the results of this project and the discussions at many European conferences and seminars (cf. OECD 1994; Koch and Reuling 1995; Fraunhofer-Gesellschaft 1996 etc.) revealed that the thrust of education policy in many European countries was moving in the same direction: key answers are being sought via an increase in the capacity of systems to respond via increased flexibility and in a new quality for vocational training via 'differentiation'.

As outlined in section 1, the objectives of increased flexibility and differentiation are being pursued by means of a variety of tools, depending on the architecture of the relevant systems. An attempt is being made to reorient vocational training policy to create more fluid transitions from vocational training to employment or continuing training, and to work towards more uniform procedures that will make access to the range of training avail-

able more transparent. This involves simultaneously setting out fundamental development prospects, which need to be debated with the aim of achieving an equivalent independent vocational training system.

Below the level of structural approaches and tools aimed at differentiating and individualising vocational training, at company level principles of linked learning and work are becoming ever more important to the quality and further development of vocational training. These trends, described in section 2, are based on changes in work, which are primarily due to the introduction of new corporate concepts and the associated corporate reorganisation and restructuring. As a result of new corporate forms of work and learning, wide-ranging changes are looming for vocational training practice and research, and are of crucial importance as regards the future prospects of initial and continuing training.

As the relevant features of these forms of learning show, there are considerable differences in their aims, structures and level of dissemination, yet they combine working and learning in a systematic way, over and above learning by experience.

Approaches involving greater integration of learning by experience, informal learning and deliberate learning are becoming important in the context of vocational training in companies, as we show in section 3. Here, a theory of learning is defined and these concepts are categorised in the context of other types of learning and knowledge in companies. As many recent surveys have shown, independent learning has an important place in the context of new forms of learning. The possibility of increasingly combining, with the aid of independent learning, informal learning experiences from all areas of life with organised learning experiences in vocational training and continuing training is not only likely to create a new impetus for learning, but is also proving to be a better route, specifically as regards new forms of learning.

New forms of organisation, work and learning in companies involve the assumption that it is now easier than it used to be to achieve improvements and create possible links between learning in companies, in schools and in the higher-education sector. For the idea of the 'learning company' involves concepts of learning more demanding than those that have hitherto characterised vocational training and continuing training activities. However, according to the prospects set out in thesis form in section 4, the value and importance of company training work to modernisation of vocational training and to closer dovetailing of the training and employment systems will increasingly be measured in accordance with the extent to which it is actively involved in the development and dissemination of new forms of learning and makes this its core competence. This core competence will then also include the structuring of knowledge management, i.e. the question of how new knowledge is identified and incorporated into the relevant processes.

1. Framework conditions for forms and quality of learning

Education and vocational training systems are today increasingly expected to be responsive as regards new forms of greater flexibility and individualisation. Differentiated solutions are required in order to realise and implement these aims, owing to the different education and training systems in Europe. There is extensive agreement on the subject of creating links and a high level of interchangeability and of developing vocational training into a transparent overall system. In this context, the European debate is attaching increasing importance to requirements and approaches such as:

- closer dovetailing of initial and continuing training;
- expansion of modular, flexibly designed skills training paths;
- models combining qualifications obtained through vocational training and general education (dual qualifications);
- expansion of vocational training options via 'supplementary qualifications' facilitating individual routes to vocational development.

Their particular contribution to the modernisation of education and training is seen as lying in the fact that these tools make vocational training more attractive and raise its status in relation to general education.

The common challenges outlined underline the urgent need for vocational training research at European level, which relates to overall transnational issues and can provide an innovative impetus for the further development of vocational training, via comparative research. A number of transnational projects recently implemented or currently in progress (cf. Koch 1998a; Reuling 1996, 1998a; Manning 1996a, 1996b; Hanf 1999) are providing initial information on concepts and tools for distinguishing vocational training courses and individualising the range of training available, as regards current practice in the European Union. Here, important aspects are instruments for modular training, dual qualifications, supplementary qualifications or relevant equivalents applied by national policies.

We must briefly outline what we mean by the terms on which we shall be focusing in the remainder of the text: 'individualisation', 'differentiation' and 'increased flexibility'. Individualisation describes the increasing reference to the various capacities, inclinations and interests of individuals, in place of traditional ties and standards. Individuals are increasingly determining their own life and career plans and are themselves responsible for them. In the case of vocational training, individualisation means recognising the differing training and skills development of every individual, and gearing skills concepts or programmes to this. This involves differentiating training and skills training, and here a distinction must be made between 'internal' differentiation (e.g. the method involving working in small groups) and 'external' differentiation (e.g. new training courses). More generally, differentiation should be seen as expressing the service and knowledge-based society that is developing, and at the same time it is a typical feature distinguishing the latter from the comparatively clearly and transparently ordered structures of the industrial age. Lastly, increased flexibility describes the creation of structures and processes in such a way as to make it possible for persons and systems to react rapidly to unforeseeable developments, changes and requirements. At the same time, increased differentiation may lead to the development of increased flexibility. This applies to only a limited extent to measures involving external differentiation.

1.1 Individualisation and differentiation of vocational training and development paths - specific national examples

The following review of structural approaches to differentiating and individualising vocational training relates to an evaluation of research in the United Kingdom, the Netherlands, France, Germany and Denmark.

United Kingdom

In the United Kingdom, individualisation and increased flexibility have long been the basis of education and training organisation. Formal open access to different qualifications and fields of employment is part of the national system. Characteristic of this is the integration of vocational training of young people and adults: levels of vocational qualifications are distinguished from standards, and can be achieved in the context of both initial and continuing training. Two recent developments are worthy of note: the introduction of general vocational qualifications (GNVQs) and modern apprenticeship. Both can be seen as a response to criticism of the NVQ system, qualifications that were little used because of their high level of specialisation (Reuling 1996).

The GNVQ programmes provide individuals with a basis for broad occupational fields and for access to further education. In principle, it is possible to enter the employment system direct, with no formal qualifications. GNVQs make the transition easier, but still necessitate lengthy periods of vocational adjustment. In order to establish a link with the skills required in the workplace, combinations involving NVQ units - as 'supplementary qualifications' - are recommended. 'Modern apprenticeship' is a programme created to

reinforce work-oriented learning paths. It is essentially based on level ISCED 3 NVQs. Within this framework, additional units above this level can be selected. In the case of both GNVQs and modern apprenticeship, key qualifications are offered in separate learning units, in order to ensure a transfer of vocational competences and skills.

In 1996, an expert committee set up by the British Government put forward a national skills framework, relating qualifications obtained in general education and vocational training to one another and establishing formal equivalents according to levels of difficulty. Within this reference framework, at horizontal level the various qualifications are assigned to one course of general education and two courses of vocational training.

In the past, the individual courses of education and training in England were developed in isolation and at different times, so that this qualification framework constitutes the first quasi-official outline of a coherent system of education and vocational training. This statement must be qualified by adding that the qualification framework relates only to qualifications for 16-19-year-olds, which covers the acquisition of qualifications at levels of difficulty 1, 2 or 3 (Reuling 1998a).

In this system, the acquisition of GCSEs, certificates obtained at 16 on completion of stage 1 of secondary education, constitutes the typical point of transition to the various training paths. The question of which of the three educational paths, at which level, holders then embark on is largely dependent on the number of subjects passed and grades obtained at GCSE level. It is important to note that young people aged 16 or over have the opportunity to increase the number of subjects passed and/or average grade, in order to improve their chances of access to relevant courses leading to general or vocational qualifications at the various levels.

In this system, the vertical qualification paths are clearly mapped out. Five GCSEs (i.e. certificates in five different subjects) with grades of A to C are sufficient to take courses leading to AS (advanced supplementary) and A (advanced) levels, roughly equivalent to the German *Abitur*. This system also provides for horizontal qualification paths. For example, it is both possible and reasonably common for people working towards a GNVQ to obtain, at the same time, general qualifications in individual subjects (GCSEs or A levels). In this way, they can supplement their GNVQ or repeat examinations for general qualifications in order to improve their grades. They can then decide whether they wish to obtain further general qualifications or general vocational qualifications (Reuling 1996, 1998a).

In principle, there is also open access to the various NVQ levels. Trainees can enter at any level and seek to acquire the relevant NVQ. In practice, however, there are some problems in going up from second to third level NVQs, one reason being that in general NVQ qualifications are designed to relate to very specific occupations, and do not take account of the importance of acquiring broad vocational background knowledge. Therefore it is likely to be more difficult to implement horizontal qualification paths from GNVQs to NVQs, because there are very clear differences between the purposes of the relevant qualifications (general vocational knowledge and skills in school-based courses versus occupation-oriented skills preferably acquired in companies).

Moreover, it is also difficult for elements of different training paths to be made interchangeable because, under the current system, the examination units and qualifications in the various educational paths are structured in very different ways. This means that there is only limited scope for combining examination units from different educational paths in the sense of an integrated or mixed curriculum (Oates 1998), and reduces the room for manoeuvre as regards individualising training paths.

The Netherlands

In the Netherlands, a new law on adult education and vocation training (WEB) was introduced in 1996. This law sets out to structure various forms of vocational education and

training and adult education in a more coherent fashion (van Lieshout 1997; van Cleve 1998). Its core consists of provision for a uniform national structure of vocational qualifications, based on four levels of difficulty as regards jobs and four related training levels. The criteria for a job's level of difficulty are the extent of the responsibility borne by an employee, the complexity of the job and the extent to which it is transferable to different situations.

At each training level, courses leading to a vocational qualification are offered. Their duration is laid down in accordance with the number of years it takes a participant on average to acquire a certificate, with each year representing 1,600 hours of real learning time (theoretical/practical instruction, homework, examinations). Ultimately, the level of qualifications for admission, which are laid down for access to each level of difficulty, is the determining factor as regards the concrete length of the course taken to achieve a vocational qualification at the various levels. There are currently a total of some 700 vocational qualifications at the various levels of difficulty, designed and supervised by the 22 sectoral organisations (LBO - *Landelijke Organe Beroepsonderwijs* [national vocational training authorities]). The State regards public responsibility as consisting in ensuring that over and above profiles of requirements in individual sectors of the economy, account is taken of developments affecting companies in general, i.e. that the principle of 'professionalism' is applied, and that when vocational qualifications are established, it is ensured that they have labour market relevance (Reuling 1998b).

Every vocational qualification consists of a number of part qualifications, which are described as learning objectives or workplace-oriented skills. The options for combining individual part-qualifications are limited. The majority of them are compulsory qualifications, with a minority being optional. However, it is planned to offer more supplementary qualifications at the higher levels of difficulty, equivalent to the level of specialised institutions of higher education. There are clearly defined entrance requirements for the acquisition of vocational qualifications or part-qualifications at the various levels of difficulty, as well as options for transition to higher levels of difficulty or training courses (including the level of specialised institutions of higher education).

Every part-qualification involves a certificate based on tests, which may be implemented in a variety of ways (internal, external, internal with external legitimation via a State-recognised test body). External legitimation of certification is stipulated for 51% of part-qualifications. As a rule, this relates to those part-qualifications that cover the core of the occupation. A quality assurance system is laid down both for external test bodies and for regional vocational training centres. However, companies can also carry out tests by agreement with the vocational training centres, with the certificates being issued by the latter.

The concept of part-qualifications in the Dutch system has two aims. Firstly, trainees who switch to another form of training or break off training prematurely obtain certificates for elements already completed, in which they have passed a test. Secondly, the combining of different part-qualifications is intended to create more of a distinction between qualifications and thus make it easier to enter the labour market. Hence, in addition to a modular approach, the new WEB also attaches particularly great importance to the so-called regional training centres (ROCs) (cf. Kutscha 1999). On the one hand, this is a question of institutional integration of the players into a regional network developing qualifications structures and, on the other, this involves mutual coordination of the content and organisation of training courses 'on the spot'. It is hoped that this regionally based infrastructure will improve links between the education and employment systems, with its greater decentralisation, reinforcement of the autonomy of regional and local players, and enhancement of the room for manoeuvre of players in the private sector.

As yet, little can be said about the results and effects of the new structures, as the law on adult education and vocational training has

been in force only since January 1996. However, it can be assumed that the regulatory framework now in place will be able to bring about significant innovations in vocational training, particularly in terms of increased flexibility and differentiation within the system and as regards its orientation towards the external situation. In this context, the concept of creating modules must be seen as an element of a strategy of political innovation.

France

In the past, the French education system was characterised by the fact that once a vocational training path had been embarked on, either by choice or owing to problems at school, this largely determined the future educational path pursued and hence also future options for vocational development. Against the background of the efforts made in recent years to make vocational training more attractive to better pupils also, formal interchangeability within the education system has been significantly expanded.

To facilitate transition between the vocational and general branches of secondary education (stage II), 'bridging' classes (*premières d'adaptation*) have been established at the upper stage of secondary education, to make it possible for holders of a BEP (diploma in occupational studies) to achieve a technological or general baccalaureate. However, major hurdles have to be cleared before the transition can be effected, as virtually no account is taken of previously acquired knowledge (Chalendar 1988, p.148). As a side effect of the need for school achievements to be comparable and capable of being taken into account with respect to the transition between general, 'technological' and vocational education paths, vocational training has been more strongly integrated into the logic of the functioning of the overall school system.

Since 1985, there has been a training course following on after completion of training as a skilled worker, leading to a dual qualification, the vocational baccalaureate. In addition to this form, which is akin to further education, the vocational baccalaureate can also be acquired in the context of phased skilled worker training, and apprenticeship in particular. It is intended that it should be possible to acquire all vocational training qualifications up to and including the vocational baccalaureate via differentiated raising of training levels, in apprentice training centres (CFAs) in particular. The training course leading to the vocational baccalaureate is combined with a significant company-based element (16-20 weeks of the two-year training period). This corresponds to the principle of alternation, under which systematic/school-based training and practical instruction in the workplace are combined (Rothe 1994). Training is divided into 25 different subject areas (1991) and includes a programme based on fundamental general subjects: history, geography, mathematics, French and economics.

The training path may also extend beyond the level of secondary stage II. Specialised study (in *sections de techniciens supérieurs* [STS - advanced technician departments]) at *lycées d'enseignement général et technologique* [colleges of general and technological education] leads to the BTS qualification (*brevet de technicien supérieur* - advanced technician's diploma), and at *instituts universitaires de technologie* (IUT - university institutes of technology) a *diplôme universitaire de technologie* (DUT - university technology diploma) can be obtained. However, holders of the vocational baccalaureate face strong competition from holders of the general or technological baccalaureate for admission to these highly selective training courses. Moreover, those who have followed the vocational training route run an extremely high risk of failing owing to the major theoretical demands these courses make. If several successive qualifications are obtained, much of the content is repeated at the next higher level, because previous work is not taken into account.

In the past ten years, a number of measures have been implemented in an attempt to individualise vocational training and make it flexible, over and above the State system. Individualisation has fundamentally been promoted by:

- the extensive introduction of modules into programmes following on from State school

training, facilitating flexible acquisition of qualifications;

- the development of teaching software for individual, autonomous use;

- intensive counselling on vocational training.

An essential tool for increasing flexibility is the option, backed by legislation, of validating knowledge and occupational experience and accumulating credits for this, in order to obtain a qualification in stages. Finally, regulations have been put in place for taking account of vocational qualifications in national diplomas. To complement national diplomas, qualifications have been designed that equip employees to perform certain tasks and at the same time to adapt to changing situations. In the French system, these serve as supplementary qualifications. In this context, the following types can be distinguished:

- *FCIL* - these are primarily offered at ISCED level 2 or 3, on the initiative of companies or schools under local State supervision, for young people who are still studying at a vocational school or who are working for a company under a training contract. They may involve specialisations or enhancement of the initial qualification;

- *CQP* - these are qualifications specified exclusively by the social partners in the relevant sectors. They are strongly geared to job classifications (job profiles) and make no distinction between training and continuing training;

- *'Titres homologues'* [equivalent qualifications] - these serve to provide State recognition and inclusion of vocational qualifications acquired outside the system of State diplomas. The process can be regarded as an example of transparency of proof of qualification.

Germany

The German vocational training system has, for many years, been confronted by increasingly heterogeneous trainees, as regards their social origin and prior education. In the wake of the expansion in education, holders of the *Abitur*, the school-leaving and university entrance qualification, are also increasingly seeking vocational training in the dual system (combined work and training). At the same time, training places are also being sought by young people who are disadvantaged owing to social problems and learning difficulties, or who come from a different culture, based on a different language and education.

As in other industrialised nations, technical and socioeconomic changes are also resulting in rapid changes in specialist knowledge and in a trend in the structure of qualifications involving increasing demands on the one hand while, on the other, new standards are being set. Above all, however, it is subject to rapid change. Even now, vocational occupations are increasingly 'saturated' with information, i.e. they primarily consist of the obtaining, assessment and processing of data and information, for which general education and supplementary vocational qualifications are becoming ever more important. Thus with regard to the structuring of vocational training and its content and the modernisation of vocational training practice, there is a need to develop approaches and produce plans that take account of this increased dynamic.

Since the early 1990s, these trends have also given rise to a lively debate about the future of the dual vocational training system and about the structural reforms required in the vocational training system as a whole. For the scope of the reform possible in the vocational training system has been significantly increased in recent years because companies have increasingly been reducing their training provision and attempting to cover their future skills requirements in other ways that are cheaper and more efficient, and/or some of those seeking training are now turning away from dual training, because other training paths offer better employment and career opportunities.

The groups in society responsible for vocational training do not currently see prospects for reform as lying in a largely nationalised

and school-based vocational training, analogous to the training model implemented not only in France, but also in the majority of EU Member States. However, the trends outlined make it necessary to consider more comprehensive forms of increased flexibility for and differentiation of vocational training paths, new combinations of school-based and dual vocational training and continuing training, and increased interchangeability between general education and vocational training.

The first stage of the reform is aimed at modernising existing vocational training courses in the dual system and creating new training profiles for innovative fields of employment (e.g. the information and communication sector, the printing industry and the media, the transport sector). A fundamental principle in the context of modernising existing training profiles and creating new ones consists of making training courses more dynamic and flexible. Key features are:

- the acquisition of broad basic skills in the first 18 months of training, with differentiated and dynamic skills profiles building on these. This internal differentiation enables skills to be built up in a wide variety of areas and also ensures that training occupations cover a very varied range of products and activities;
- a combination of compulsory qualifications (key qualifications) covering the entire range of future fields of activity and optional qualifications (c.f. inter alia Lennartz 1997).

The second stage of the reform is aimed at developing self-contained, standardised 'building blocks' (modules) which build on one another and can be completed, as 'supplementary qualifications', either during initial training or immediately afterwards. They are aimed at making vocational training more attractive, in that they make it possible for individuals to make their own choices and decisions as regards future career development paths, and make training better adapted to differentiated requirements. At the same time, the intention is to create more fluid transitions between initial and continuing training, in terms of both timing and content.

However, it is not yet clear how these supplementary qualifications can be combined with traditional vocational and/or general qualifications, or who will offer and provide them. Even if the basic strategy pursued consists of listing these supplementary qualifications acquired in a portfolio (vocational training 'passport'), the question of transparency and of the value of the achievements described will arise (Kloas 1997). Thus there is a need for an analytically based certification system, covering both initial and continuing training and enabling these qualifications to be countable and interchangeable. The introduction of credit systems may be a first stage in transparently documenting final qualifications, job experience, and part and supplementary qualifications. They also serve to make management of the qualification and development process autonomous, although careful consideration must be given to their usefulness and to the work involved. Thus experience of and trends in modular approaches to vocational training, as apparent in the UK and to some extent also in the Netherlands, are also becoming increasingly important in connection with modernisation of the German vocational training system.

Research is also required into the possible value of these modular concepts for continuing training and the structure of qualifications in further education in Germany. For in view of the need for lifelong learning, in Germany too there is an increasing need to look at the question of the usability and countability of part qualifications acquired in training or at work. Here, the English and Dutch concepts demonstrate a way of developing flexible but nonetheless coherent continuing training structures. As experience to date demonstrates, a precondition for this is effective training counselling, which informs individual trainees of the options available as regards part qualifications and of the consequences of the relevant options in terms of acquiring a nationally recognised continuing training qualification.

Denmark

In many respects, the structures in Denmark are similar to those in Germany. This applies

in particular to the organisation of vocational training, in which here too the most important pillar is dual vocational training. Unlike Germany, however, Denmark has successfully implemented a direct link between school and company-based forms of vocational training. These structures promote interchangeability between the systems and also support the claim to equivalence of vocational training and general education.

Since the Vocational Training Act was passed in 1991, those completing the nine-year period of compulsory education (*folkeskole*) have been able to go straight on to a vocational school. Young people who start on initial vocational training can, if they are suitable, switch to a vocational school in the second year. Conversely, students at vocational schools also have the option of continuing their initial vocational training in the dual system. The law on the higher business examination (HHX) and the higher technical examination (HTX) integrated these qualifications from vocational schools into the reformed system of initial vocational training and thus, at the same time, strengthened these schools' position and made them equal to schools providing general education. Both qualifications serve as entrance qualifications for higher education institutions, but also directly qualify holders to enter employment.

In addition to purely school-based vocational training, young people who have completed their compulsory education also have the option of dual training in 85 occupations, with over 200 specialist subject areas. Unlike the situation in Germany, however, these dual training courses no longer include only traditional training, but also courses whose duration can range from under one year to 5½ years. Dual training courses are organised in blocks, with periods at vocational school alternating with training periods in companies. However, work is currently being done on another reform of vocational training, due to take effect in the 1999/2000 training year. This is characterised by a framework for qualifications, a modular structure, and local/regional autonomy for vocational training institutions. Individualisation and increased flexibility will be universal principles in the new structure and organisation.

In future, initial vocational training will be organised in two stages for everybody:

1. In the *basic course*, there will be a drastic reduction in the number of training courses hitherto available. The basic course can take between 6 and 18 months, depending on previous education and the combination of modules. During the course, it will also be possible to select units facilitating access to more advanced training courses. In all cases, the compulsory element will involve 15 weeks of key qualifications and can be supplemented by optional modules on the basis of an individual plan. It ends with an examination which constitutes a condition for entry to the main course.

2. In the *main course*, specialisation takes place. Here too, there is a compulsory element and an element in which individuals can choose options on a modular basis. The optional units are offered in both initial and continuing training - most colleges are active in both fields (Hanf 1999).

In Denmark there are close links between initial vocational training, continuing training and skills training for the unemployed. On the one hand, this method of organisation makes it possible to coordinate the systems as regards the content and recognition of qualifications. On the other, the modular forms of provision which have already been prevalent in continuing training for many years allow scope for adapting the training available to meet the needs of specific target groups. Most continuing training programmes are divided into relatively small learning units. In virtually all the programmes, certificates are issued for individual courses, and depending on individual ability, participants can also acquire a nationally recognised general or vocational qualification by combining individual building blocks in a series of courses over a shorter or longer period. Building blocks from general education leading to a school-leaving qualification can also be combined with building blocks from continuing training alongside employment (labour mar-

Figure 1: Tools/approaches for individualising and distinguishing vocational training and development paths

Countries / Tools/approaches	UK	Netherlands	France	Germany	Denmark
Modules	++	++			+
Dual qualifications				+	+
Supplementary qualifications/ interweaving of initial and continuing training			+	++	+
Interchangeability with courses of general education	+	++	+	+	

ket training). The certification of individual courses, and not simply of one overall course, also makes it possible to continue adding qualifications later precisely at the point where earlier studies were broken off.

The original fears of the skilled workers' trade unions that these part qualifications in the context of continuing training could be detrimental to qualifications acquired in dual training have proved to be unfounded. It has instead proved to be the case that sectors extensively involved in continuing training alongside employment also have large numbers of trainees. In addition, the introduction of modules into continuing training alongside employment (labour market training) and the increased flexibility have also provided a major impetus for the reform of initial vocational training, which is also to be organised in modular form in the year 2000 (cf. Nielse 1996).

1.2 Starting points for an independent and equal vocational training system

The above overview is based on the results of surveys in countries in which there are significant variations in the degree of individualisation and differentiation of vocational training paths. As the generalised summary in *Figure 1* shows, the objectives of differentiation and increased flexibility are pursued with the aid of a variety of tools. Vocational training is being made more flexible, in an attempt to create more fluid transitions to employment or continuing training and to make processes more uniform, in order to make access to the range of training available more transparent. The compromise between State regulation and market orientation aimed at in this process leads both to common features and to a variety of features specific to particular countries, which can be summarised as follows:

- The trends in the *UK* towards a wholly modular vocational training system are closely linked to the concept of individualised and lifelong learning. The use of modules enables those responsible for training to gear the training they offer more markedly to the aspirations and motivations of individual trainees, via varying combinations of modules. Examination units and credits are becoming increasingly important as tools for achieving increased flexibility, differentiation and interchangeability. However, it still proves difficult to bring later coherence to fragmented qualifica-

tions, and also to eliminate the existing diversities between and within qualifications from general education and vocational training. For differences in the delimitation of the subject canon in courses of general education and in the occupational fields in GNVQs and NVQs, differences in learning and test modalities, differences in assigning test units and qualifications to levels of difficulty within the qualification framework and, last but not least, differences in the responsibilities and regulation mechanisms for the qualifications in the various education and training courses are still making it difficult today to provide options for learning in different educational paths, which allows for opportunities to switch between general education and vocational training, and makes them interchangeable.

- *The Netherlands* sees its modular vocational training system as an innovative system geared to future requirements as regards lifelong learning, increasing Europeanisation, and rapid industrial change. The system's modular nature makes flexible switching between school-based and dual vocational training courses possible. At the same time, trainees have a free choice of and can expedite entry to the various learning modules, depending on their existing knowledge. Training modules are also seen as offering a further benefit, in that they make occupational structures transparent, identify a quality system, and increase flexibility via differentiation. An important part is played in new forms of organisation by regional cooperation networks, which both coordinate initial and continuing training and also undertake coordination of the range of training offered with labour market requirements. Methodological concepts for vocational teaching are also elaborated, in order to provide effective modules constituting vocational training geared to industrial change.

- In *France*, a number of initial reforms have significantly extended the formal interchangeability of the education and vocational training systems. In practice, however, it is still very difficult even now to relate separate qualifications systems to one another. In addition, owing to pressure from the expansion of education, for some time a strategy of increasing the value of vocational training has been pursued. With the introduction of the vocational baccalaureate, an independent vocational training path has come into being, which in principle opens up the possibility of moving across to a higher education institution. Efforts are also being made to introduce further dual vocational training courses into the education system. To some extent this has been done in the form of '*alternance*' training. However, these dual training forms have little in common with the German model of dual training, because in them company-based training and school-based training are consecutive rather than being simultaneous. Owing to the national policy of decentralisation, the regions have acquired important responsibilities and powers in the vocational training field in recent years. These are used to promote close links between schools and companies on a lasting basis, and increasingly to supplement national qualifications with additional local/sectoral qualifications. However, there are still socio-cultural obstacles in the way of promotion of dual training courses, because even today vocational training has less social prestige in France, since it is the path followed in particular by students unable to go on to higher education.

- In *Germany*, the emphasis is, firstly, on concepts and tools relating to 'internal' differentiation, the intention being to use them to promote greater dynamism and flexibility in vocational training courses. Secondly, the aim is to individualise vocational qualifications and to create more fluid transitions from initial training to continuing training, by offering a wider range of 'supplementary qualifications' in vocational training. However, the growing need for workers with qualifications of varying levels and the increasing challenges faced by vocational training, in terms of training both increasingly better educated young people and disadvantaged

young people, are also making it necessary to adopt an approach involving 'external differentiation' and greater interchangeability between the paths to qualifications based on general education and vocational training. Organised training courses over and above the dual system (dual qualifications) are also being tested in pilot projects currently in progress. In addition, efforts are being made to introduce more interchangeability between vocational training and education by making qualifications obtained in vocational training equivalent to those in general education.

- One of the primary aims of vocational training policy in *Denmark* is to ensure that vocational training offers young people a broad, varied and comprehensive education, and provides them with options for more advanced training. Care is therefore taken to ensure that young people who have chosen to follow a course of vocational training also receive a comprehensive general education. The access paths to vocational training courses at secondary stage II, leading to a dual qualification (qualification for an occupation plus entitlement to enter higher education), have also been coordinated with the access paths for initial vocational training in the sandwich system. This means that it is possible for students/trainees to switch from one course to another following basic vocational training. Vocational training as a whole is currently being reformed on the basis of a uniform framework. Key features of the reform are modular structures, compulsory and optional building blocks, relative autonomy for training providers and closer links between initial and continuing training.

The current efforts to modernise vocational training bring up the question of development prospects. A question that is becoming ever more urgent in all European countries is that of the properties and quality vocational training systems need to possess in order to remain attractive in future. It is now acknowledged that benefits and transparency for the players involved are fundamental criteria of such attractiveness. It is becoming apparent in respect of those seeking training in particular that this attractiveness is increasingly being measured in terms of the options training paths offer as regards opportunities for vocational and personal development and the potential employment prospects they offer.

It is apparent throughout Europe that the boundaries between general education and vocational training have recently become more fluid: the increasing importance of languages, mathematics, science and politics and the undisputed importance of technology and economics as integral elements of modern vocational training have brought about a variety of interconnections between courses of general education and vocational training. However, as yet education policy has not taken this approximation of content and structures sufficiently into account, for even now

- qualifications and certificates acquired in vocational training frequently do not constitute entitlements and 'career opportunities' equivalent to those acquired in the school/university system;

- qualifications acquired via continuing vocational training and job experience are inadequately recognised in terms of certification, and are rarely adequately credited in a switch to further education;

- at best, vocational training paths in companies and the civil service end with admission to a middle level of seniority. Considerably more importance is attached to a university degree, as a formal entitlement in the context of appointments and promotions, than to a skill acquired via vocational training.

In comparison with school-based academic education, initial and continuing vocational training therefore still means 'second best' to many today, or a time-consuming change of direction in order to achieve access to traditional academic courses and qualifications. In addition to strategies for making it easier to switch from vocational training to general education, it will therefore be necessary in future to change the emphasis and develop

convincing plans, if the aim is genuinely to achieve parity of esteem, and vocational training is really to be made more attractive.

Since all previous experience has shown that neither adaptation of vocational training to general education nor switching to traditional school-based academic education brings about equivalence of vocational training and general education, there is a need to give more thought to developing a plural system of vocational training paths, which extends from initial training via continuing training through to qualifications in the tertiary sector (higher education institutions). Construction and expansion of such a plural system offers the potential for an independent vocational training system genuinely to create an alternative of equal value to the school-based academic education route. From the viewpoint of organisation and teaching methodology, it is easier now than it was in the past to realise a plural system of vocational training paths from initial training through to higher education qualifications. For even where large areas of vocational training are organised in the dual system, it is apparent that owing to new forms of organisation, work and learning in undertakings (cf. section 2), it is easier than it was before to create links and connections between learning in companies and learning in schools and in higher education.

However, models of an independent vocational training system geared to the future do not go far enough if they are restricted to new forms of training and a new quality. What is needed is, rather, consistent expansion of job-based continuing training options, which facilitate subsequent acquisition of additional skills or updating of existing qualifications in working life. 'In many countries, the absence of new organisational concepts for continuing training are still today preventing stronger links between the content of initial and continuing training and, in many fields, career planning beyond vocational training' (Schmidt 1998, p.144). However, vocational training becomes attractive only if, following initial training, senior skilled worker positions and middle management positions can be achieved via continuing training.

A transnational comparison makes it clear that in addition to regional and sectoral continuing training qualifications, the existence of national standards for generally recognised continuing training qualifications constitutes an important cornerstone in terms of making vocational training attractive. To combat the risk of increasing 'emigration' of ambitious and better-performing young people from vocational training, there are strong arguments in favour of the option already realised in individual cases, namely of building up and expanding the provision of continuing training with dual organisation, e.g. along the lines of the English colleges of further education or the American community colleges.

Furthermore, access to more advanced general education courses and to higher education in particular must be improved for those completing vocational training. Thus there is a need to expand the early moves in this direction in individual European countries, aimed at linking particular vocational training courses with qualifications entitling holders to enter more advanced general education courses or even higher education in universities or institutes of higher education. However, there is an even more urgent need to expand provision of academic continuing training at higher education institutions for holders of vocational training qualifications and, in addition, to establish job-based courses of study at these institutions. But this can be successful only if there is a change of thinking within these institutions, and if they develop, in close cooperation with undertakings, suggested plans for the design of the content, method, teaching and organisation of academic continuing training provision and/or of basic courses of study, which must be job-based (i.e. a new combination of working and learning). Because of their proximity to practice and owing to economies of time and cost, such possibilities could offer many young people, but also undertakings, much more convincing solutions than conventional paths involving a laborious reorientation to traditional school-based academic paths. Job-based courses of study at higher education institutions therefore require ways of reducing their length via crediting of existing vocational qualifications. The periods aimed at should

be between two years (bachelor) and four years (master), based on international standards and higher education qualifications. In addition, the organisation and provision of these courses of study should make intensive use of multimedia learning options and thus be geared to the needs of students with jobs.

2. Models and forms of company-based learning

The scope and quality of learning in modern work processes have become increasingly important for the restructuring of company-based training work and the development of initial and continuing training. In particular, it is a matter of answering the questions of the forms in which learning takes place at work, what it comprises, and the learning orientations and teaching methods involved. It must be assumed that learning in modern work processes is very different from pedagogically organised learning. However, as yet almost no analyses are available. The key question is whether the learning is limited to economic and technical goals or whether the work opens up learning potential and learning opportunities that also promote personal development and training processes.

Critical assessments take as their starting point the fact that today's world of work is characterised by the disintegration of social ties and a reduction in the scope for identity. Accordingly, de-traditionalism and de-standardisation are occurring, and traditional value-oriented and social ties at work and in the job are disintegrating, to be replaced by a capacity for work as a function of the work process, geared to flexibility and mobility. This is derived from pressures and dynamics in the industrial and economic systems compelling ever more comprehensive and ever faster production, so that the work process has to be made ever more elastic and flexible. Sennett (1998) sees flexibility as the dominating factor in modern work processes, virtually doing away with personality-oriented development options and dependable social relationships. And more than ten years ago Beck had already established that in the wake of 'de-standardisation of paid work' the traditional principle of an occupation that provided meaning had become obsolete. 'Just like the family, the occupation has lost its former certainties and protective functions. With the occupation, people are losing the backbone of their lives, which came into being with the industrial age' (1986, p.222). Beck regards 'a society of plural activities' as a possible future scenario, in which he sees the current 'individualisation' and 'de-standardisation' of work as the counter-principle to its standardisation (1999, pp.62ff.).

This contrasts with jobs that combine modern concepts of work and organisation with new social ties, improved opportunities for learning and education, and dynamic professionalism. Learning in new forms of work and learning in particular is acquiring a new quality, and in this context, according to the most far-reaching assumptions, new forms of work become equivalent to forms of learning. For example, in a recent empirical study on 'forms of learning integrated with work', carried out to supplement the data on continuing training in companies obtained in the context of the FORCE European action programme, work-based learning was categorically re-evaluated. In the study by the skills-development-management working party (1998), in addition to 'autonomous learning' and the 'learning workshop', new forms of work organisation such as teamwork and project work were, per se, categorised as forms of learning (pp.29ff.). Other authors speak of a change of conception and concept in company-based learning and continuing training in companies in the context of modern work and production planning and the associated informal, self-organised forms of learning. According to them, traditional deliberate forms of learning in training institutions are obsolete. 'Qualification' should be replaced by 'competence', which would bring the 'actual individual's own organisation into the picture' (cf. Erpenbeck and Heyse 1996, p.110).

These views supported by empirical studies are based on changes in work that are primarily due to the introduction of new corporate concepts and the associated reorganisation and restructuring. With new forms of work and learning in companies, extensive changes

are looming for vocational training practice and research, and are critically important to the future of initial and continuing training. In what follows, we shall first describe basic work-related learning models and then go into newly developed forms of learning in companies.

2.1 Work-related learning models

In what follows, work-related learning in initial and continuing vocational training should be seen from the European perspective (cf. also Dehnbostel and Dybowski 1998; Greinert 1997; Greinert/Wiemann 1992, pp.66ff.; Koch 1998b; Koch and Reuling 1995). The term 'work-related learning' first needs to be defined and broken down. 'Work-related learning' describes learning processes within and outside companies whose subject is the content and structures of work and work processes. On the one hand, it relates to a narrow field that is learning-venue- and task-specific and, on the other, it must be understood as involving a methodological approach that relates learning and work to one another. In the context of the relationship between learning venue and work site, on the basis of experience to date in Germany, work-related learning can usefully be broken down as follows:

- learning tied to work;
- learning connected with work;
- work-oriented learning.

Learning tied to work is distinguished by the fact that learning venue and work site are identical. Learning takes place in the workplace or in the work process. On-the-job training, group learning in the work process and company learning islands are examples of this. In learning connected with work, the learning venue and the actual workplace are separate, although they are directly connected in terms of space and work organisation, as for example in quality circles, learning workshops and technology centres. Work-oriented learning takes place in central learning venues, for example in vocational schools, vocational training centres and training workshops. In some cases, commissioned work is carried out in environments very similar to actual workplaces.

A look at the basic forms of work-related learning in Europe shows that, typologically speaking, five models can be distinguished, to which concepts and systems are assigned in the overview that follows, by way of example: learning by working in the actual work process (1); learning via instruction (2); learning via integration of learning through experience and deliberate learning (3); learning via exploration and practical training (4); learning in simulated work/production processes (5). *Figure 2* shows the five models with specimen concepts, systems and forms of learning assigned to them. It also shows the kind of work-related learning each of the models involves.

2.1.1 Learning by working in the actual work process

Learning in the actual work process is the oldest and commonest form of vocational skills training. In this form of learning, the workplace is also the learning venue. In craft training and traditional side-by-side training, in which the trainee is assigned to a skilled worker, company- or occupation-specific work activities are learned by imitation. The trainee learns in the company's working situation, by watching, copying, joining in, helping and trying out or simulating what is seen. The result of the learning essentially depends on the following factors: the specialist and teaching competence of the trainer or the skilled worker doing the training, the work tasks, the organisation of the process and structure, the workplace equipment and the corporate culture. Learning is stimulated by working, and motivation and identification come into being because the products or results of the work are useful and their meaningfulness is directly apparent.

This form of training is found in German-speaking countries in particular, but also in France, and has also recently been evolving again in Central European countries such as Poland and Hungary. In continuing training in companies, a similar form is found, adapted and integrated into work. Traditional training concepts, adaptation of skills in compa-

Figure 2: Work-related learning models

Basic work-related learning models	Examples of concepts, systems, forms of learning
(1) Learning by working in the actual work process (learning tied to work)	Craft training; traditional side-by-side training; on-the-job training; group learning in the work process; some training programmes and dual study courses
(2) Learning via instruction, systematic instruction in the workplace (learning tied to work)	In-company training; four-stage method; some training programmes and dual study courses
(3) Learning via integration of experiential learning and deliberate learning (learning tied to or connected with work)	Quality circles; 'learning places'; learning islands; order-based learning; cognitive apprenticeship; coaching; constructive learning; interactive learning
(4) Learning via exploration and practical training (learning tied to or connected with work)	Supplementing school-based vocational training courses, skills training in training centres, study courses; school-based preparation for an occupation
(5) Learning in simulated work or production processes (work-oriented learning)	Schools of production, order-based work in training centres

nies, and learning in modern forms of work organisation usually come under this model of work-related learning.

2.1.2 Learning via instruction, systematic instruction in the workplace

Systematic instruction takes place in the context of traditional dual training in a company and in the context of skills training for starting a job or changing jobs in a company. In this training, the master craftsman, the journeyman or the skilled worker providing training has a key role in applying and carrying out the instruction. He selects the work tasks, plans the work organisation and work processes, instructs the trainees, monitors the progress of the work and evaluates its results. One method of instruction is the four-stage method, i.e.preparation, demonstration, imitation and practice. This and similar methods of workplace instruction, such as analytical work instruction and instruction based on work rules, have acquired only limited importance, as training for complex work activities in industrialised countries with company-based training has increasingly been transferred to training workshops. Training systems in these countries initially reacted to the change in skills requirements in production and service processes primarily by modernising training methods in learning venues away from the workplace.

2.1.3 Learning via integration of experiential learning and deliberate learning

In the field of training, decentralised forms of learning such as learning islands and learning from commissioned work have acquired great relevance. They are characterised by the fact that they combine learning through experience and deliberate learning via work. One fundamental reason for this integrated learning lies in the specific learning requirements of reorganised undertakings. Continuous processes of improvement and optimisation, customer and business-process orientation, and a high capacity for innovation necessitate the integration of work and learning. The concept of the 'learning undertaking' can be regarded as a synonym for this integration-based approach.

412

In Germany, new learning schemes have been developed in numerous State-sponsored pilot projects for in-company training; these schemes have promoted the integration of learning through experience and deliberate learning, as regards teaching and organisation. Examples are the pilot projects for new methods such as the project and team methods and learning from commissioned work (Schmidt-Hackenberg et al. 1989), and pilot projects on decentralised learning and the learning-island concept (Dehnbostel et al. 1996). Innovative approaches of this kind have been developed in similar fashion or, in some cases, adapted, in other countries with company-based training systems.

2.1.4 Learning via exploration and practical training

Exploration and practical training in undertakings constitute a work-related learning concept in which actual practice in the company is integrated into wholly school-based training, into skills training programmes in a centre for initial and continuing training, and into training in institutions of higher education. While practical training usually takes place alongside school-based training courses and training in higher education institutions, specifically targeted exploration frequently supplements skills training in initial and continuing training centres. With both forms, the main aim does not generally consist of acquisition of workplace- or occupation-specific qualifications. Instead, it is to give trainees an insight into the reality of work and company life, and to increase the motivation to learn via actual participation in the work of a company. The latter relates to periods of practical training in particular, while trainees systematically master subjects such as work organisation, skills training, economics or social skills via exploration of specific issues.

The model of work-related learning via practical training is particularly widespread at international level. In many countries, school-based training has recently been expanded by the introduction of practical training stages in companies. A typical example is the so-called *alternance scolaire* in France. On the basis of a national framework regulation on training objectives, schools conclude agreements with companies on the nature of practical training for each student. The school is also responsible for monitoring the teaching quality of the practical training. In reality, however, the systematology and quality of practical training vary widely, since schools have only a limited influence on the structuring of practical training in companies.

2.1.5 Learning in simulated work or production processes

Work-related learning in simulated work processes takes place in (skills) training centres and, in particular, in schools of production or training production units. The aim is to create a learning situation that approximates as closely as possible to reality and facilitates the acquisition of complex skills and experiences and reflection on these. As the setting up of quality circles and learning islands in vocational schools and skills training centres shows, this form of work-related learning overlaps with model (3) in Figure 2, with its combination of learning through experience and deliberate learning. However, here there is no authentic learning through experience, although in contrast to didactically structured learning in training institutions, learning is strongly influenced by the criteria of production technology, work organisation and economics.

In Western Europe, schools of production have primarily been set up to integrate the disabled or the socially disadvantaged. No explicit vocational training takes place in them - as in Denmark, for example. On the other hand, in the countries of Central and Eastern Europe, vocational schools with their training workshops also undertake skills training on the lines of the production-school model, without the function of integration into society. They often work as suppliers for companies or produce simple goods directly for the market. One important reason for this is to safeguard their existence, owing to inadequate State resources. The majority of this skills training can be classed as training for simple jobs.

2.2 Forms of company-based learning geared to the future

In the tabular depiction of models of work-related learning, in Figure 2 under (3), quality circles, learning islands and coaching, inter alia, are listed as examples of new forms of company-based learning. Research carried out by the Federal Institute for Vocational Training (BiBB - *Bundesinstitut für Berufsbildung*) between 1996 and 1998 under the research project 'Company strategies for innovation and learning' (cf. Dehnbostel and Dybowski 1998; Dybowski et al. 1999) showed that in modern undertakings, equivalent future-oriented forms of learning have come into being on the basis of changing organisational forms and skills requirements. They are of crucial importance both for skills training, including in-company training, and for the initiation and implementation of innovations and improvement processes. This is consistent with research and the results of projects implemented in the context of the Leonardo programme and the FORCE programme mentioned earlier (cf. ACEA Learning Network 1996; 1997a; 1997b; QUEM working party 1998; Brown 1997; European Communities 1999).

In the BiBB research project, pilot studies and case studies were carried out in ten medium-sized and large undertakings. A key criterion in selecting companies was that they should be carrying out restructuring and reorganisation measures or should have already done so. New learning orientations and new forms of work and learning organisation were of crucial importance to the empirical and qualitative research. The approach and significance of the future-oriented forms of learning examined in this context are outlined briefly below. As the brief descriptions of these forms of learning show, there are considerable differences in their objectives, structures and level of dissemination, but they combine work and learning in a systematic form that goes beyond learning through experience.

a) Instruction/coaching

This form of learning is used in all the undertakings examined, and may involve individual instruction or group instruction. The instruction is provided by colleagues, group representatives, superiors, trainers and staff development workers. In contrast to traditional methods of instruction such as vocational adjustment, briefings and the four-stage method, instruction is primarily regarded by undertakings as skills training alongside the work or production process. Coaching, which focuses on simulating and developing staff, team representatives and leaders, is an example of this.

b) Quality circles

Quality circles, as a tool to involve employees in corporate problem-solving processes, were tried out in some of the undertakings examined as far back as the 1980s, when new production concepts were emerging. The fundamental aims of quality circles have today been transferred to forms of work organisation such as teamwork and project work. Objectives such as participation, cooperation, problem solving and improvement of skills can obviously be realised at least just as well in these forms of work organisation as in separately instituted circles.

c) Learning workshops

The learning workshop as a form of learning is aimed at resolving company problems connected with production and cooperation and at acquiring specialist knowledge and improving work productivity. Learning in a learning workshop, connected to work and based on experience, is aimed above all at acquisition of skills and competences directly required in the work process. The undertakings examined are familiar with the learning workshop as a form of continuing training, but do not use it as an independent form of learning. Instead, in some cases project work is geared to the learning workshop model, particularly with regard to communication, problem solving and the exchange of experience.

d) Decentralised learning/learning islands

Learning islands and other decentralised learning venues such as learning stations and

skills centres were initially set up in the context of the series of pilot studies mentioned earlier. In the majority of the undertakings studied, learning venues of this kind have been in existence for only a few years. The concept of decentralised learning provides for a shift from centralised, formal and systematic learning structures in favour of increased flexibility, more open structures and work-related learning, and for orientation in principle towards dynamically structured professionalism. At the same time, learning in decentralised learning venues is combined with learning in central learning venues, with the aim of optimising learning potential and the benefits of learning.

e) Order-based learning

This form of learning was originally developed in the craft trade and in small industrial companies, in which there were virtually no organised forms of learning. The research has shown that customer orders within and outside the company are implemented in the form of order-based learning in the training of some medium-sized and large companies. Orders are planned, implemented and evaluated in coherent fashion. They are didactically and methodically processed, with the emphasis on customer orientation as a communication and structuring process and on holistic implementation. Order-based learning may also take place in the context of other forms of learning, such as instruction or learning islands.

f) Interactive learning

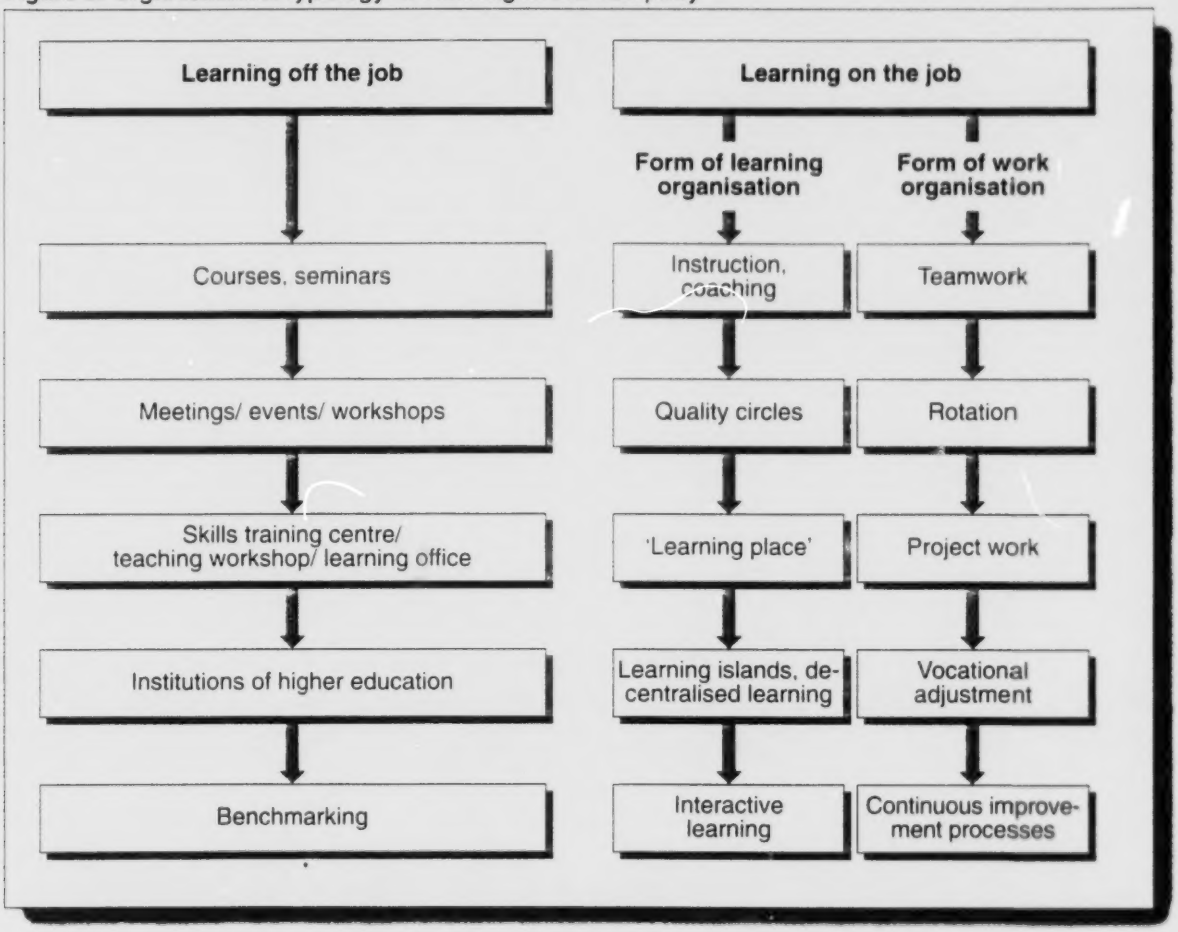
Interactive learning has been postulated for many years as an innovative form of learning for modern work processes. Research has shown that it is used as a form of learning, either on its own or in combination with other forms of learning, but that it has not gained widespread acceptance. In principle, interactive learning at work takes place on both an individual and group basis, and organising and controlling the learning processes oneself are an important element. Software learning materials used according to the learning requirement arising in the job concerned can accordingly be regarded as teach-yourself media.

These six forms of learning or, to be more precise, forms of learning organisation, can be regarded as symptomatic of modern industrial work processes. They have in common the fact that jobs and work processes are expanded and enriched from the point of view of systematic learning and work education, achieving a favourable starting situation for restructuring, of proven quality, of in-company learning concepts. Learning based on experience and integrated into work activities is specifically combined with deliberate learning.

A fundamental distinction can be made between forms of in-company learning aimed at the acquisition of competences that specifically include deliberate learning and go beyond the relevant job-oriented requirements, and forms in which skills and competences are acquired informally and remain limited to work requirements dictated by the situation. The forms of learning outlined, as forms of learning organisation specifically introduced and involving the addition of a learning infrastructure to the workplace, fall into the first category. A distinction must be made between these and the second category of in-company learning, modern forms of work organisation, in which learning through experience plays an important part, for instance in order to implement continuous processes of improvement and optimisation, but learning is not specifically incorporated in organised fashion.

Research into company strategies for learning and innovation has shown that learning through experience is extremely effective in the following forms of work organisation: project work, rotation, vocational adjustment and continuous improvement processes. Thus learning at work can in principle be traced back to two different types of organisation: forms of learning organisation, in which deliberate learning and learning through experience are specifically and systematically combined, and forms of work organisation, in which learning takes place informally and on the basis of experience. According to the undertakings studied, independent forms of learning organisation are apparently not considered necessary if sufficient learning takes place on the basis of experience, in modern

Figure 3: Organisational typology of learning in the company



forms of work organisation, and can be utilised to optimise work processes.

The BiBB research has also shown that another type of in-company learning, learning off the job, is undergoing significant change. It is consistently apparent that the scope and teaching and methodological investment of previous forms of off-the-job learning are not being maintained. Priority is clearly being given to learning on the job, related to and associated with the job. There are accordingly fewer traditional, systematically structured specialist courses and seminars. Work-related events such as support workshops for teamwork and project work are increasingly being offered and implemented. In general, skills and vocational training measures in central educational establishments and institutions increasingly relate to social and methodological topics. In addition, benchmarking represents a new form of in-company off-the-job learning. *Figure 3* shows the various types and forms of in-company learning.

3. Reorientation of learning and the changing role of training staff

The models described and, in particular, the new forms of in-company learning show that learning processes are increasingly important in modern forms of work and organisation. Learning is aimed at developing the competence of individual employees and social groups. From the companies' point of view, the primary aim is to facilitate and expedite processes of improvement, optimisation and development. Learning potential in the workplace is utilised and in some cases com-

bined with systematic learning. The particular advantages of learning in modern work processes are:

- the seriousness and binding nature of the work process;
- the fact that the workplace is the learning venue serves to orient and motivate;
- the modernity, openness, concrete nature and contingency of the work content; and
- the opportunities for experience-based learning, organised by the individual.

The need to deal with new skills requirements and a world that is changing both within and outside work is the starting point for reorientation of learning and for topical teaching methods in vocational training. In recent years, not only have new forms of learning and learning orientations come into being, but comprehensive teaching concepts and a change in the foundations of learning theory are also emerging, such as learning through doing and constructive learning in particular. New learning potential, structuring possibilities and forms of learning at work give rise to the question of the extent to which the company itself can become the starting point for new learning and teaching orientations.

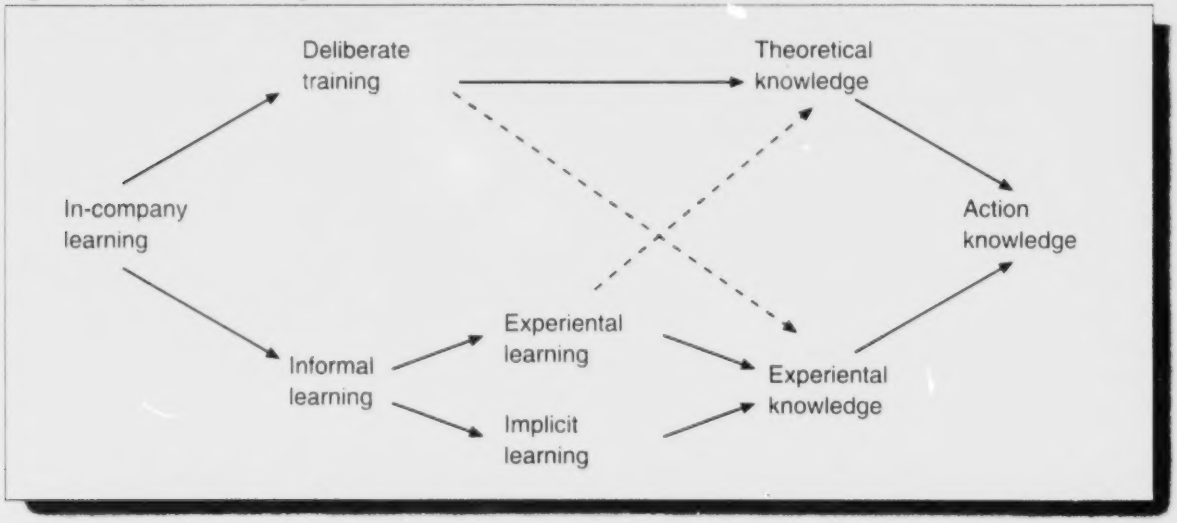
In this context, it is apparent that in principle new learning orientations and forms of learning necessitate expansion of traditional teaching theories and models. Informal and experience-related learning processes at work and in other places with no organised system of learning are not taken into account in traditional teaching methods. These relate only to deliberate learning, i.e.systematic and organised learning. In addition, the prevailing didactic understanding of individual learning processes takes virtually no account of the learning of social groups and organisations. Inclusion of them compels vocational training to implement didactic processes and developments that take more account of real experiences and subjective concerns, and distinguish training courses and living patterns. As demonstrated in the new forms of learning in the previous section, integration of learning through experience and deliberate learning is crucially important. It is a constituent of forms of learning in companies and accords with self-organised learning and lifelong learning. For teaching staff, these learning orientations also involve a fundamental change of function and role.

3.1 Integration of experiential learning and deliberate learning

In general, learning through experience takes place via reflection on experiences that are always preceded by action. In practice, experience-based knowledge appears in the form of intuition or a feeling for materials, machines, work processes and social situations. A distinction must be made between action based on experience and experience-based knowledge, and technically/rationally based action. Experience-based learning, which has traditionally been very important, is becoming even more important in the context of new corporate concepts and the new forms of learning described. For new corporate work and organisational concepts necessitate processes of optimisation, communication and learning for which learning through experience at work is essential. Dewey (1993, in particular pp.186ff.) saw reality as disclosing itself via experience-based learning on the basis of the learner's own self-determined activity, in real courses of action. The sequence 'action - experience - reflection' and its ongoing continuation, taking account of previous processes of experience and realisation, is then seen as 'evolutionary progress', on condition that learners take action to learn on their own initiative and, if possible, of their own accord. On this basis, reality will disclose itself to individuals via processes of learning and experience. This approach is correctly seen as a forerunner or precursor of the constructive learning approach (Gerstenmaier/Mandl 1995, p.882; Reich 1996, pp.197ff.).

To aid understanding of the concept, it should first be noted that a distinction must be made between experience-based learning, informal learning and learning by implication. Informal learning is the overall term for experience-based learning and learning by implication. Informal learning must be understood

Figure 4: Types of learning and knowledge in companies



as meaning learning that is not organised and has no formal framework, in the world of life and work. It is people's fundamental, 'natural' self-teaching, which, according to Dohmen (1999), has the following characteristics:

- it does not take place in particular educational institutions remote from everyday life and work;
- there is no planned curriculum and it is not professionally organised, but tends to be triggered by events or to arise by chance and sporadically from situations of changing practical requirements;
- it is not arranged in a pedagogically conscious way, with a system of subjects, examinations and entitlements, but tends to be unaware, casual, a holistic response to a problem, and related to coping with situations and with life in general;
- it does not involve stockpiling learning remote from practice, but is directly experienced in its 'natural' function of supporting life and survival.

To make a rough distinction between the two subordinate concepts (they can, in any case, only be distinguished in analytical terms), experience-based learning and learning by implication, it can be said that experience-based learning, as understood by Dewey, takes place via reflective processing of experiences, while learning by implication tends to occur without reflection or awareness. As Fischer (1999) says, learning by implication is 'a learning process of whose course and result the learner is unaware, or which at least cannot immediately be put into words'. Relevant examples of this are recognising a face in a crowd without knowing why, or learning to ride a bicycle without knowing the underlying rules and laws.

If we look at in-company learning, the types of learning addressed, in combination with other types of learning and knowledge, can be classified as follows, as shown in *Figure 4*: in in-company learning, a fundamental distinction needs to be made between informal and deliberate learning, with the latter being organised and formally geared to the provision of set learning content and learning objectives. While deliberate learning is from the outset aimed at achieving a specified result, with informal learning a result becomes apparent without generally having been deliberately aimed at. Of course this does not mean that the actions on which informal learning is based are unintentional. They are simply geared to corporate and entrepreneurial objectives and purposes, and not to learning options.

The experiential knowledge built up via informal learning and the theoretical knowledge built up via deliberate learning are brought together in practical knowledge. As the overview shows, experiential knowledge is acquired not only via learning through experience and learning by implication, but also via deliberate learning. This is due to the fact that informal learning takes place, even if by the way, in virtually all life and work situations. Conversely, theoretical knowledge is enriched by knowledge acquired from learning through experience, which evolves into theoretical knowledge via reflection on experiences.

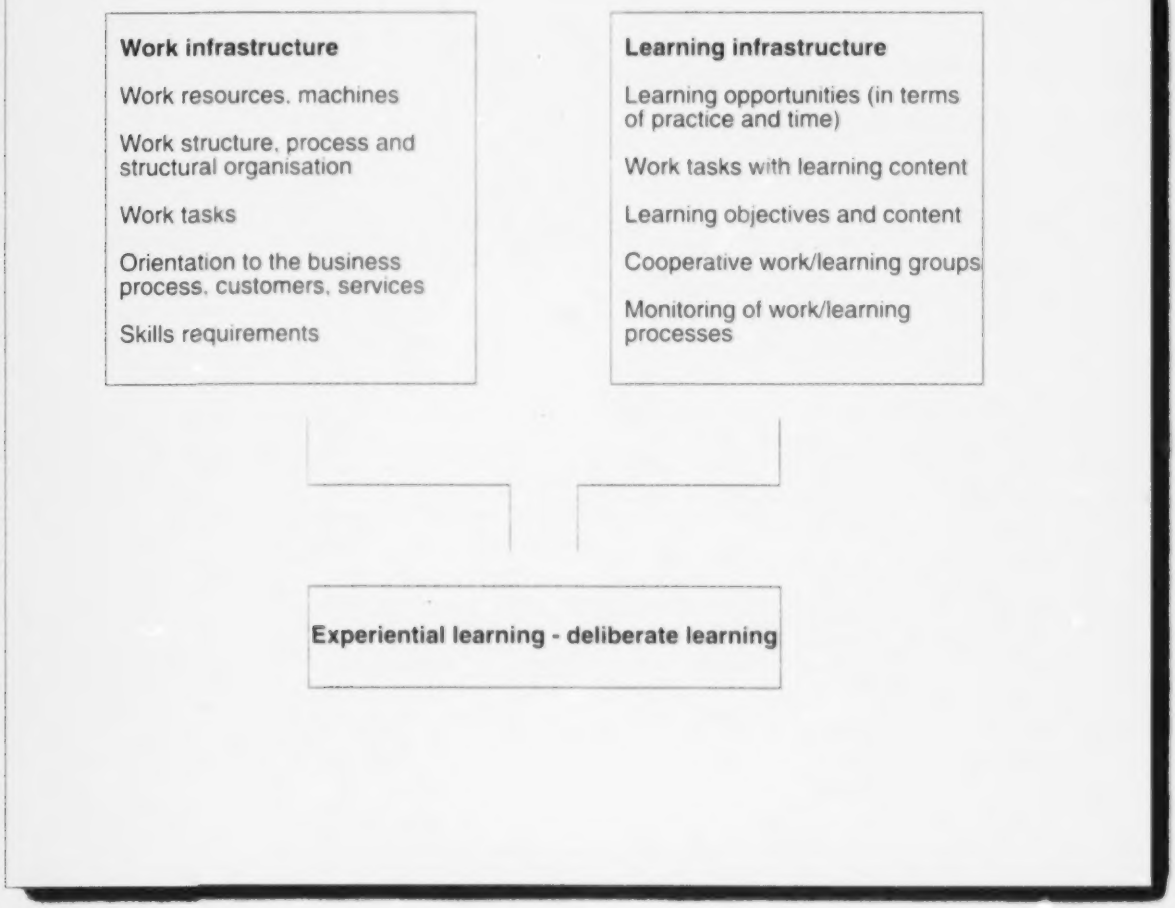
Experience at work relates to sensory, cognitive, emotional and social processes. The extent to which each of these is brought to bear is essentially dependent on work duties and objects, process and structural organisation, social relationships and the corporate culture. Here, clear boundaries are set by the logic of entrepreneurial business and organisational processes. Opportunities and scope for experience are tied to technical and economic objectives and intended purposes. Even if these boundaries are extended by the learning options in modern work processes mentioned, ultimately experience-based learning and structuring of work and work organisation so as to promote learning are subject to business calculations. The extent and boundaries of experience-based learning are crucially dependent on the extent to which economic and pedagogical objectives approximate to one another and overlap, a question which is virtually unanswerable in view of the change companies are currently undergoing.

Another restriction on experience-based learning lies in work processes that are increasingly characterised by information and communication technology. It is apparent that experience-based learning is no longer taking place in the way that it did in traditional industrial and craftwork environments. Some of the external experiences constituting a precondition for reflection are being changed by the application of new technologies, and some are disappearing. In particular, active work activities governed to a great extent by the sensory organs of sight, hearing and touch are increasingly being reduced. On the other hand, in sophisticated work organisation and in modern work and organisational concepts, both the need for learning and opportunities for it are increasing. The question of the extent to which this also involves an expansion of external experiences and experience-based learning cannot be answered at the current stage of development. In any case, new experiences are coming into being. Although these essentially relate to mediatised work activities geared to cognition, they still involve sensory and practical elements.

It is now characteristic of forms of learning such as quality circles and learning islands that they do not remain bound to learning through experience and the possible restriction on learning that this implies. They are characterised by the fact that they combine experiential learning with deliberate learning, even if in varying forms and with varying objectives. An example of this concept is 'learning islands', the new form of learning that has a number of points in common with other decentralised forms of learning such as quality circles and learning workshops. Learning islands are used for both initial and continuing training, although they were originally developed in the context of initial training. Learning islands and other decentralised forms of learning supplement the work infrastructure of traditional workplaces with a learning infrastructure, i.e. equipment, learning materials and audiovisual media are added to workplaces, and learning processes are specifically monitored at work. Similarly to the situation described in respect of different forms of teamwork, the distinctions are not always clear, or alternatively no clear distinctions can be drawn at the current stage of development. The common features of these forms of learning are summarised in *Figure 5*.

The traditional model of learning in the workplace is considerably expanded by the integration of deliberate and experiential learning in decentralised forms of learning, and new learning paths are opened up. The relevant place of work is structured in accordance with principles that promote learning, such as authenticity, an appropriate situation and social bonds. It is true that the learning is tied to work, but it is not restricted to expe-

Figure 5: Decentralised forms of learning (including learning islands, learning stations, skills support)


Work infrastructure
Work resources, machines
Work structure, process and structural organisation
Work tasks
Orientation to the business process, customers, services
Skills requirements
Learning infrastructure
Learning opportunities (in terms of practice and time)
Work tasks with learning content
Learning objectives and content
Cooperative work/learning groups
Monitoring of work/learning processes
Experiential learning - deliberate learning

rience-related learning processes or on the job training. Work activities and the related reflection are interrelated with the expressed objectives and content of in-company training work. Experience-based learning processes are systematically combined with deliberate learning.

These new forms of in-company learning illustrate a change of perspective in corporate skills concepts. Linear and hierarchically determined patterns of thought, behaviour and orientation are being replaced by independent, participatory and process-based approaches to activities and learning. It is becoming possible for processes and developments increasingly to incorporate real experiences and subjective concerns and to take account of differing training paths and lifestyles. At the same time, this is combined with a change in the balance between teaching and learning: learning is acquiring greater importance in relation to teaching, and teaching is understood and implemented in the sense of monitoring and moderating. This will be explained in the last part of this chapter.

The extent to which these new learning options are brought to bear is essentially dependent on work tasks and objects, the process and structural organisation, social relationships and the corporate culture. Improvement, optimisation and design processes in modern work processes necessitate learn-

Figure 6: Principles of instruction-based and constructive learning and teaching

Instruction-based learning and teaching	Constructive learning and teaching
Learning is receptive, and is largely linear and systematic	Learning as an active/constructive, self-governed, situation-based process, the results of which cannot be predicted
The teacher teaches, demonstrates, explains; the learner imitates, takes in	The learner plays an active, largely self-determined part; the teacher is an adviser and helps to structure learning processes
Learning content is seen as closed systems of knowledge or elements thereof	Learning content and knowledge are not self-contained, they are dependent on individual and social contexts

ing as a situation-based process organised by the individual. Active learning becomes necessary, linked to previous action, experience and reflection. In particular, this involves adding constructive orientations to traditional instruction-based teaching and learning. The focus is on the learner, as an active subject, reflecting on himself. On the basis of individual activity and self-determination, reality is opened up by individual processes of learning and experience. This means that in principle, experiential learning also involves the development of general competences, stimulating personal development. *Figure 6* compares the instruction-based and constructive principles of learning and teaching.

In the new forms of learning, and in modern work processes in general, active learning with individual reflection will take place in complex contexts, but to only a limited degree. Receptive learning will also continue in certain work situations, for example when new technical systems are introduced or work organisation processes are changed. Complementary deliberate learning processes have also proved to be necessary, as ultimately opportunities and scope for experience are tied to technical and economic objectives and intended purposes. In general, it will not be possible to acquire comprehensive vocational competences solely or primarily via experiential learning in a restricted situation.

3.2 Learning organised by the individual in new forms of work and learning

'Self-organisation' and learning organised by the individual are a fundamental, constitutive function of new forms of work and learning. In this context, self-organisation should not initially be understood as being based on theoretical principles of learning or teaching, but as a key organisational principle of modern work and organisational concepts. Consequently, pilot projects on decentralised learning and the institution of learning islands carried out in the Federal Republic of Germany were characterised by an understanding of decentralisation which involves increasing self-organisation and autonomy. Here, decentralisation is understood as being a process of transferring and delegating tasks and competences from central, management and work-preparation areas to operational areas and areas providing added value. In these areas, the scope of work, structuring options, decision-making powers and responsibilities are increased, in order to improve quality and performance standards, development and innovation processes and, at the same time, the opportunities to identify with the work.

'Self-organisation' in this sense also involves learning organised by the individual, irrespective of whether it takes place on the basis of

experience or deliberately. In the forms of work and learning cited, self-organised learning takes place in the process of work and in organised team meetings. Processes of self-organisation are an important precondition for implementing processes of continuous improvement and optimisation and for stimulating the development of knowledge and a capacity for innovation. For example, if one considers semi-autonomous teamwork, it can be seen that it involves a broad spectrum of learning. Regular team meetings, internal co-ordination and rotation, representation of the team by a spokesperson, and high levels of autonomy, scope for decision-making, and responsibility involve a potential for social and methodological learning that is almost never found in traditional work processes. From the point of view of teaching and learning theory, teamwork involves many individual and collective learning processes. Collective learning in groups also requires self-regulatory learning processes, via discussions and reflection (Dubs 1993, p.451), processes that are an element of corporate knowledge management. However, where teamwork is organised in a less complex and comprehensive way, and in other forms of work, there is a risk that self-organised learning will be reduced to learning based on adaptation to the work function. This risk can be combated by combining the learning with deliberate learning or with central learning venues with organised teaching.

Self-organised learning was already playing an important part in initial and continuing training in the 1970s, in other words at a time when preliminary academic study and closed curriculum concepts were to the fore. In vocational training, three approaches to self-organised learning in particular were developed and tested: the project method, the key text method and the team method. Sometimes these methods were understood as supplementing traditional methods such as the four-stage method, the side-by-side method and the teaching discussion, and sometimes they were seen as alternatives to them. These methods, cited as examples, can briefly be characterised as follows:

- Project method: learning is geared to holistic work tasks and projects that can be realised in practice, which are mainly planned, implemented and checked on one's own responsibility and under one's own control.
- Key text method: learning is imparted by texts on dealing with a task, so that as much as possible is learnt independently. These 'key texts' consist of key questions, a work plan and check sheets, and basic principles.
- Team method: learning in a group, which usually carries out work tasks or projects in a self-organised and cooperative way.
- Four-stage method: teaching and learning via practical work-based instruction in the company in a process comprising the following stages: preparation, explanation and demonstration, imitation and practice.
- Side-by-side method: learning via impressions and experience at work that are not specifically and systematically organised.
- Teaching discussion: learning by absorbing issues and factors raised in in-company vocational training, in order to impart skills content via discussion.

The traditional methods were rapidly proving incapable of coping with the emerging objectives of comprehensive vocational competence, integrality, and the acquisition of key skills. The new methods, aimed at self-organisation, cooperation and integrality, anticipated much of what modern work processes require in the way of comprehensive skills, which are increasingly being realised.

Differentiated work and job processes necessitate individual profiles of skills and competences and devotion of more time to continuing training, in the context of lifelong learning. This lifelong learning extends to all forms of organised and informal learning. The structuring and organisation of training and learning phases is to some extent dependent on individual preferences. Consequently, individual organisation of one's own learning processes is proving to be an increasingly important competence, in order to structure

learning not only individually, but also continuously. The possibility of increasingly combining, with the aid of self-organised learning, informal learning experiences from all areas of life with organised learning experiences in initial and continuing vocational training is not only likely to create a new impetus for learning, but is also proving to be the better option, specifically as regards new forms of learning.

As many recent studies have shown, self-organised learning has an important place in the world of work. Surveys in the context of the continuing training reporting system (BMBF [German Ministry of Education, Science, Research and Technology] 1996) and the latest European FORCE survey show that in Germany, for example, the overwhelming majority of people in paid employment frequently acquire further vocational skills by teaching themselves and trying things out in the workplace, and also regard this kind of learning as the most important way of acquiring knowledge (Grünewald 1997).

However, the search for efficient forms of learning has also for some time characterised the efforts of many companies to reorient and develop their own initial and continuing training activities. This is because new forms of work and organisation make increased demands on the ability of skilled workers to direct their own work and take responsibility for themselves. Strategically speaking, new forms of participation and empowerment of employees are becoming increasingly important to safeguarding the competitiveness of undertakings. Today, willingness and ability to learn and participate on the part of employees and groups of employees are regarded as essential, in order to achieve continuous improvements, assure quality, have a market presence geared to customers, and produce intelligent products and services.

These new company requirements for self-organisation make it necessary to use learning on the job more consistently and systematically than hitherto for skills training of all employees and to promote company organisation processes. The efficiency and comparatively cheap nature of this skills training mean that it is increasingly proving its worth in organisational forms such as self-organised learning, which is acquiring growing importance both directly within the work process and in the context of company projects, continuous improvement processes and other models of participation, as a learning and development process not only for individuals but also for groups and organisations.

A fundamental aspect of self-organised learning lies in the fact that by solving work-related problems, specialist and social competences are gradually built up and developed. This happens on the basis of a high level of responsibility for oneself in the skills acquisition process, which promotes personal involvement and the right to a say. Learners should act on their own account within set framework conditions and utilise these in accordance with their own objectives and concerns. At the same time, it is necessary to acknowledge and decide what is required in the way of specialist knowledge and/or what specialist questions require experts to be consulted. Thus people do not learn by applying rules and regulations, but instead they learn to solve problems independently or jointly, in groups, and in the process they learn to cope with uncertainties in social situations.

Lastly, it is also necessary to look at the many misgivings expressed about self-organised learning in a differentiated way. For example, Lipsmeier draws attention to disadvantages and problems of self-organised learning, such as 'encouragement of anonymity because learning becomes very private', 'learning difficulties and also the risk of failure become private/re-privatisation of the continuing training risk', 'isolated learning with little in the way of contact', resulting in 'loneliness and resignation' and 'lack of immediacy, transparency, situational and practical relevance' (Lipsmeier 1991, pp.111 f.).

Furthermore, there are some grounds for fearing that with strict financial calculations in the field of continuing training, and in view of strong pressure on job performance, self-organised learning in the workplace leads to a reversion to simple basic skills. For if insufficient time is made available, virtually no

reflection phases and development periods are allowed, and no specific help is provided, for example in the form of coaching or advice from experienced in-house or external experts, self-organised learning is largely reduced to principles of learning by doing, or learning by watching. However, this type of learning is virtually incapable of developing the capacities required for independent working, dealing flexibly with changing work tasks and, last but not least, independent continuing learning.

3.3 Changing tasks and role of training staff

Company trainers and other skilled workers involved in initial and continuing training play a key part in initiating and designing new forms of learning and realising new learning concepts. The forms of learning described above, self-organised and lifelong learning, and the integration of experiential and deliberate learning are topical and important examples of these new tasks. Staff involved in initial and continuing training in inter-company and external training centres and teaching staff in vocational schools are also confronted with these new tasks, although in a different form. The comments that follow concentrate on training staff in companies, following on from the preceding sections.

The new tasks facing staff involved in initial and continuing training can be clearly seen in the context of changing company skills requirements and objectives such as the acquisition of comprehensive vocational competence and orientation to customer, business and improvement processes. There is a considerable increase in the demands made on training staff as a result of technological and work-organisation developments, the increasing mediatisation and tertiarisation of work, and changing starting conditions and interests on the part of learners. In undertakings with a long history of training, it is also apparent that the hitherto clear divisions between trainers, trainers in continuing training and staff development workers are no longer sustainable. In line with the general integration of tasks, job enlargement and job enrichment in work structuring, the tasks and role of training staff are expanding. This is particularly apparent for 'traditional' trainers, in that they have to take on additional continuing training tasks and are involved in various ways in tasks that are part of company organisational development. In individual cases, for example in imparting additional skills and monitoring learning islands, the form involved integrates initial and continuing training. Overall, this means that the quality and scope of skills training for trainers must be expanded and that new training concepts must be implemented. Against this background, the prospective structuring of skills training for full-time trainers and other skilled workers whose tasks include skills training must be geared to two conceptional requirements:

1. firstly, integration of specialist, social, personal and work- and occupation-related teaching content;

2. secondly, a structural link with real work, organisational and corporate processes, with processes of organisational and staff development being particularly important.

This integrated and work-oriented concept means that the trainer's job is fundamentally enhanced in the sense of the relationship to work as defined in 2.1. The tasks and functions of the full-time trainer no longer unilaterally relate to learning sequences in the training workshop, organised into systematic training and vocational education, but in principle involve orientation to teaching and learning processes in real work tasks and real work processes. This involves a range of tasks extending from new teaching methods via supplementary coordination of learning organisation to turning company workplaces into learning venues. There is a radical change in the previous 'teaching' and 'instructing' activity: this is partially replaced by processes of monitoring, moderation and coaching. As explained in section 3, these methods should be regarded as complementing traditional training and teaching methods, even if they are predominant in some innovative forms of learning and work, e.g. in learning islands and semi-autonomous teamwork.

In principle, these tasks also apply to skilled workers providing training and to other skilled workers involved in initial and continuing training on site. In European countries in which vocational training has made little headway or is less developed than is the case in the Federal Republic of Germany and in Austria, skilled workers involved in skills training on site have an important role in any case, and here too there is a need for skills training for these skilled workers to change and be enhanced (Attwell 1997; Brown et al. 1994; Schön 1983; Young and Guile 1997). Among other things, the emphasis must definitely be on opening up the workplace and structuring it as a learning venue. This task, which involves creating functional learning environments at work, is not without tensions and contradictions. On the one hand, activities in the workplace are subject to economic criteria and calculations but, on the other, the workplace, as a learning venue, must also be assessed in terms of the objectives of work and vocational education. Or to put it another way, the specialist vocational activities of skilled workers on site continue to be based on economic objectives, while the activities involved in work and vocational education are committed to providing comprehensive skills and vocational training.

This area of conflict affects not only trainers and skilled workers whose tasks also include provision of initial and continuing training, but increasingly also people in companies whose jobs involve moderating and coaching tasks in modern work processes, i.e. team leaders and team spokespersons, project managers, quality assessors, organisation development workers, etc. In comparison with full-time trainers, whose numbers are in any case decreasing in modern undertakings, this group, which includes skilled workers providing training, is larger and certainly more important. To give an idea of the relative sizes of the groups, the relative proportions of trainers and skilled workers providing training in the Federal Republic of Germany are, for example, as follows: an up-to-date representative survey by the Federal Institute for Vocational Training has established that there are some 70,000 full-time trainers registered with the chambers, but also around three and a half to four million skilled workers involved in training activities in the workplace (Schmidt-Hackenberg et al. 1999).

It is all the more important to implement new training measures for a broad-based target group. The new forms of learning and work, which integrate deliberate and experiential learning, and promote and require experience-based work processes, must be monitored by appropriately qualified skilled workers. To date, concepts of training for trainers have taken virtually no account of this group of skilled workers, i.e. primarily team leaders and team spokespersons, and project managers and master craftsmen. There is now a need for training measures that equip people to open up learning potential and learning opportunities on site, to structure learning environments and to develop learning approaches in the context of job tasks and job experiences. The training of full-time trainers and other skilled workers involved in training needs to be coordinated and in some cases implemented jointly. The training concept must be geared to the needs of an integrated and work-oriented concept, as mentioned above.

The new Regulation on the 'training of trainers' (*Ausbildung der Ausbilder*, AdA) that entered into force in Germany in November 1998 addresses this need above all by structuring the activities of trainers into seven fields of action (Hensge 1998). The previous subject-based system is dropped, and the emphasis is on promoting competence as regards action, methods and planning, and on building up a new competence for trainers based on action-oriented roles. However, the Regulation has little relevance for other skilled workers, even though there is a justified demand for skilled workers involved in training to be included in the new regulation on suitability of trainers (Steinborn 1999).

An example of a programme targeting other skilled workers is the continuing training on work-oriented learning, for skilled workers involved in training, developed by Bayer AG in Leverkusen (Dehnbostel and Dybowski 1997/98, pp.121ff.). This programme developed out of the pilot project 'Continuing train-

ing of part-time and full-time trainers in company applications against the background of changing training requirements', and having been developed in the first half of the 1990s, has been successfully applied in many medium-sized companies. It provides for opening up of the workplace via workplace analysis and the embedding of training of skilled workers involved in training in the framework of company staff and organisational development. The latter has proved to be necessary in other approaches to continuing training for company training work, as opposed to training geared solely to work and vocational education. For training for new or expanded tasks is always associated with questions of status, promotion and remuneration, and the new tasks are usually interwoven with staff and organisational development processes and results.

The continuing training programme consists of the following four blocks, each of which lasts a maximum of two days:

1. conditions and structures for 'job-oriented learning', the role of the company and of part-time trainers in initial and continuing training (Block 1);

2. analysis of jobs and activities, tools and processes and their application in the seminar (Block 2);

3. methodological procedures for guidance on 'job-oriented learning' (Block 3);

4. specimen work analyses in the company, structuring of 'educational arrangements' in the workplace (Block 4).

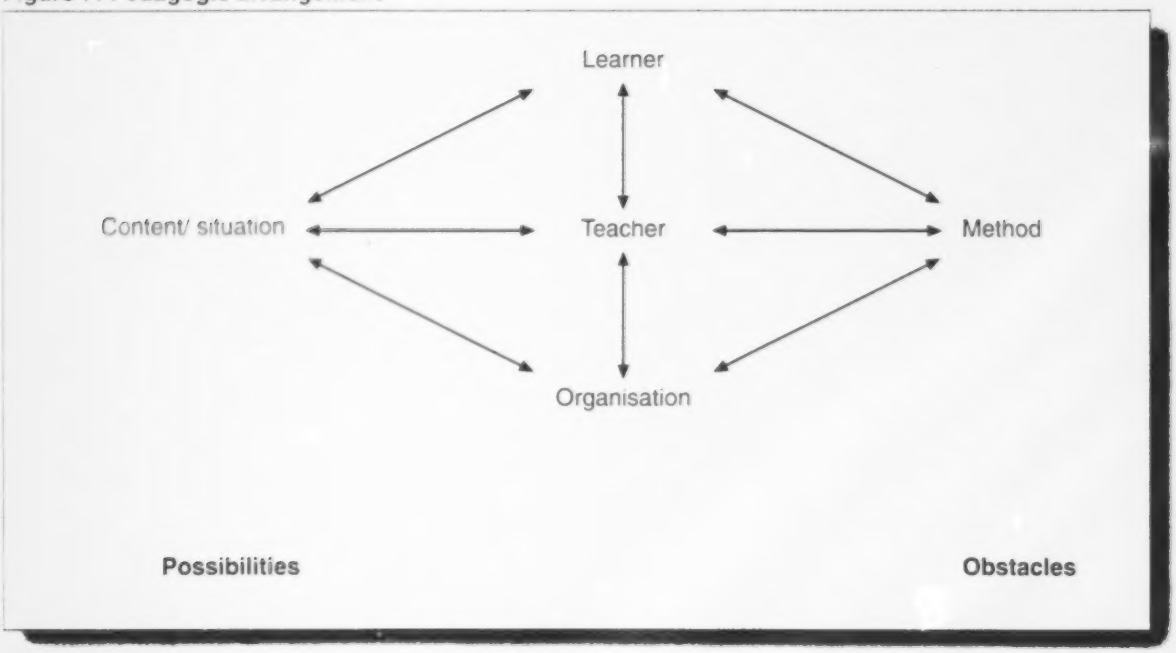
In the programme, the training is closely linked to the skilled workers' vocational experience. One key task consists of reflecting company and work situations and, by exploring their own workplaces, identifying and opening up the learning potential and learning opportunities inherent in them. As this workplace exploration is not restricted solely to the tasks arising in the workplace, but also includes the source and objectives of the tasks and the work organisation, it gives rise to a good overview of company correlations and systems. This facilitates rapid and specific action when problems arise and in the event of sudden faults in the process and structural organisation. In the framework of the exploration, systematic thinking and understanding of the context are acquired or at least improved in association with experiences.

Exploration of one's own workplace and of the learning situations inherent in it is unusual and has no history. Therefore trainers and other skilled workers must learn to make situations that cannot usually be systematically planned manageable via workplace analysis, and to structure them as learning tasks. It is helpful to use methods derived from principles of experience-driven learning. Here too, the importance of experiential knowledge and experiential learning is as great as it is in the context of the new forms of learning and work described earlier. In addition, it is crucial for participants to elaborate the content for themselves. This ensures that it is based on experience and is transparent, and can be transferred to situations in the company. It also means that productive use is made of participants' skills and their specific personal qualities.

In continuing training, in addition to workplace exploration and workplace analysis, business issues are addressed, e.g. the need to be aware of quality and costs, and in this way a deeper insight into the overall life of the company and its business is acquired. Teaching and methodological exercises are carried out in order to equip skilled workers to deal with learners and so that they develop competence in structuring teaching/learning arrangements. This may be done, for example, from the angle of discovery-based learning, in which work tasks are performed at various workplaces in the company, followed by systematic reflection on them in evaluative discussion. Overall, the teaching methodology of the training programme ensures that different methods, such as individual and group work, visualisation and presentation, are used in such a way as to serve as examples of the actual initial and continuing training activities of skilled workers.

The experience gained in developing and testing this training programme makes it clear

Figure 7: Pedagogic arrangement



that learning on the job goes further than all three elements of the classic didactic triad of 'content - teacher - learner'. Here, the limitations of school-based teaching, as mentioned earlier, are clearly apparent. The teaching content can no longer be restricted to the subject content of a particular field, but must follow the trend of being oriented towards events in the company and work organisation as a whole. The person doing the teaching must be in a position to take on the role of 'arranger' of work situations with learning content, in addition to those of instructor, moderator and monitor of learning processes. Thus, the role of learners also becomes more constructive: they acquire an opportunity to master tasks relatively independently, depending on their experience, and to learn from this.

Training in the workplace requires a pedagogic arrangement, in the structuring of which all those involved make a specific contribution, as *Figure 7* shows.

To prevent misunderstanding, it should be pointed out that the arrangement of the factors, separately and in relationship to one another, should by no means be seen in a rigid and schematic light. On the contrary, the 'pedagogic arrangement' is a field of action, which has its own dynamic and its own independent context, and whose situation is governed by the work process. The person doing the teaching is in the centre of the diagram because of the high level of demands he faces. But this positioning should also be seen as dynamic, as the teacher, both as skilled worker and as trainer providing initial and continuing training, must endeavour to give the learner an increasing active, independent role. Over time, his function increasingly becomes that of a 'learning monitor', who uses his specialised experience and his knowledge of work and corporate organisation to prepare job tasks in such a way as to facilitate an optimum learning process.

4. Summary: in-company training work as an interface between the vocational training and employment systems

In modern work processes, action as an activity with a specific aim is undergoing a fundamental change. Action determined by planning and preparation of work in narrowly defined

tasks is being replaced by reflective, open and subject-oriented action. In the wake of this development, action-oriented learning and the acquisition of comprehensive vocational competence to act have become guiding principles of vocational training, set against the background of the changes in work processes and the world of work mentioned earlier. In the context of reorganisation and restructuring, work requires different skills, not only because of the regained breadth of fields of activity, but also as a result of structuring options involving open work processes, holistic work tasks and the fine structuring of work organisation. These tasks have in common that they represent renunciation of the Taylorist performance principle, reintegration of hitherto separated work functions, and a high level of control of and responsibility for their own work on the part of skilled workers. Teamwork and autodidactic concepts are a priority, and people are expected to work on their own initiative and to have opportunities to do their own planning and structuring.

The forms of learning outlined relate to action that is both product- and results-oriented and reflective, and is characterised by room for manoeuvre and responsibility. Learning which one organises oneself, which combines experiences and deliberate learning, is intended to make individuals and groups capable of taking advantage of the opportunities for structuring and control demanded. Integrated and self-organised learning, and also lifelong learning, are initially based not on pedagogic aims, but on business aims and aims relating to the development of corporate organisation. Unlike pedagogically based learning arrangements, the emphasis is not on the acquisition of subject-related knowledge and education, and on specific selected relevant activities, but on activities geared to business processes and profitability. Thus self-organised learning is strongly influenced by teamwork and by taking responsibility for work activities involving new skills, and lifelong learning is influenced by the dynamic of corporate innovation and by processes of continuous improvement and optimisation.

In-company training must take as its starting point the primacy of orientation towards action and the subject and, above all, the needs of corporate processes of innovation and organisational development. The approach to the subject and to the relevance of training derived from the logic of economic and corporate conceptional considerations opens up new possibilities for vocational training in relation to work, and calls into question the traditional functional view of continuing training in the company. Continuing training in the company can no longer be seen as adaptation to work organisation and technology, while adult training is defined in terms of giving priority to relevance to the subject of training.

As we have shown, current forms of learning and learning arrangements in companies are distinguished by the fact that an important part is played by the relevance of the subject and the training. Even if the rebirth of learning in companies, with new forms and a new quality, is based on company considerations involving efficiency and reorganisation, this does not stand in the way of an increasingly humanistic justification for company training work and, at the same time, relevance to the company's operational interests and individual training interests. Not only do the new forms of learning and learning arrangements contribute to the relevance of company training work to the subject and to training, but so too does understanding of organisational development, an understanding aimed both at optimisation of productivity and performance and at increased opportunities for participation and work which stimulates personality.

Training work of this kind in the company has a key function at the interface between the vocational training and employment systems. It essentially relates to entitlement to skills in the sense of mastering the current and future needs of the employment system and to entitlement to training in the sense of autonomy and personal development. These entitlements come together in the guiding principle of the acquisition of comprehensive competence as regards vocational activity, and here the term 'competence' covers both the skills aspect and the subjective aspect of reflection and personal development. If the needs of the employment system are directly

brought to bear in forms of work and learning, the needs of the vocational training system are, in particular, met by means of starting points for learning, and vocational development paths.

As we said at the beginning, vocational training and development paths that are interwoven with the employment system are of particular benefit, since they are characterised by a marked capacity to adapt and react. The increased flexibility and differentiation required have their starting point in vocational training, and via a systematic combination of working and learning they point the way to prospects for development that are particularly apparent in dual and flexible training courses. These training courses bring the employment and vocational training systems together and assign in-company training work the function of a hinge between the two systems. The starting points for a vocational training system that is independent and of equal value, as discussed, and the development of a plural system of vocational training paths should be seen from this perspective.

However, as we stated at the beginning, insufficient account is taken of existing qualifications and certificates in vocational training as regards going on to more advanced paths in the higher education sector, and insufficient recognition and certification is given to skills and competences acquired through experiential and informal learning on the job. This is the case throughout Europe, although there are considerable differences, as established by Bjørnåvold (1999) on the basis of 15 national studies in Europe on 'non-formal learning'. According to these studies, in some European countries skills acquired informally are already recorded and certified at national level, in Finland and the UK, for example. The studies also show that there is a strong European trend towards developing and applying methods of identifying, evaluating and recognising learning outside formal vocational training institutions.

In order to recognise and certify experiential learning, the results and competences ensuing from this learning need to be recorded, assessed and evaluated. The recording and evaluation must take as their starting point the fact that competences acquired on the job are extremely dependent on work situations and learning potentials. Thus simple, repetitive jobs offer minimal learning potential and opportunities to learn, and virtually no experiential learning takes place in them. On the other hand, in complex work situations full of variety, intensive experiential learning usually takes place, since there is great learning potential and work-oriented learning processes are necessary and possible. A system of evaluation and certification needs to be developed, covering both initial and continuing training, to facilitate transferability and interchangeability between these two field of training, which have hitherto been completely separate. This is a key task for in-company training work in the operational field. Here, trainers and other skilled workers involved in initial and continuing training have a part to play that is just as important as their role in the opening up and structuring of the workplace as a learning venue, as described earlier.

In the context of new forms of learning, differentiated training paths and recognition of informal learning, attention must be drawn to two additional fields of research and development, which should be addressed as a priority in education and training policy and in structuring in-company training work: interweaving of initial and continuing training and interweaving of corporate organisational development and vocational training. It must be assumed that the clear separation of initial and continuing training in some vocational training systems will gradually be abolished and replaced by links and differentiated transition points, as described in this study. Future requirements cannot be exclusively or principally met within initial vocational training, for in a number of major fields of activity it is a long time since it was possible to learn a vocation and practise it throughout one's working life. Even with people who have been working in their occupation for a long time, their current vocational knowledge usually has little in common with the knowledge and skills they acquired in their training. From this point of view, initial training serves,

above all, as a basic prerequisite for entering a skilled occupation.

As a result of the importance new forms of learning and differentiated training courses have acquired in modern corporate and organisational concepts, vocational training could achieve a new strategic dimension for the development of the company organisation. For company reorganisation and restructuring processes are aimed at more than relocating competences downwards, with the desired effect being a dilution and levelling out of the hierarchy. They also involve, rather, a restructuring of forms of work and learning and a redefinition of company learning and development paths, which make a change in company personnel development strategies essential in the medium and long term. This brings with it an opportunity to reposition vocational training in companies, although only on condition that company skills training acquires relatively independent significance in the interrelationship of technological development, changing activities and job-related skills. A corresponding linkage between in-company vocational training and organisational development is indicated in a number of reorganisation processes, and this needs to be intensified.

Bibliography

ACEA, 1996. Learning Network (Leonardo da Vinci Project). *Training for Co-Makership.* Wolfsburg: manuscript.

ACEA, 1997a. Learning Network (Leonardo da Vinci Project). *Training for new work structures.* Paris/ Boulogne-Billancourt: manuscript.

ACEA, 1997b. Learning Network (Leonardo da Vinci Project). *Learning for Globalisation.* Gothenburg.

Arbeitsgemeinschaft Qualifikations-Entwicklungs-Management (QUEM), ed., 1998. *Formen arbeitsintegrierten Lernens - Möglichkeiten und Grenzen der Erfaßbarkeit informeller Formen der betrieblichen Weiterbildung.* QUEM Report, No 53, Berlin.

Attwell G., 1997. Pressures for change in the education of vocational education and training professionals. *In*: Brown A., ed. *Promoting vocational education and training: European Perspectives.* Tampere. pp.107ff.

Beck U., 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne.* Frankfurt/Main: Suhrkamp.

Beck U., 1999. *Schöne neue Arbeitswelt. Vision: Weltbürgergesellschaft.* Frankfurt/New York: Campus.

Bjørnåvold J., 1999. *Ein gemeinsamer Trend. Identifizierung, Bewertung und Anerkennung von nicht-formalem Lernen – Bemerkungen zu gegenwärtigen Tendendenzen und Herausforderungen.* Berufsbildung 53, pp.42 f.

Brown A. et al., 1994. *Technical and Training Mastery in the Workplace.* Bournemouth: Bourne Press Limited.

Brown A. (Hrsg.), 1997. *Promoting Vocational Education and Training: European Perspectives.* Hmeenlinna: Tampereen yliopiston opettajankonlutuslaitos.

Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie – BMBF, ed., 1996. *Berichtssystem Weiterbildung* VI. Bonn.

Chalendar J. de and working party, 1988. *Ecole de la deuxième chance – deuxième chance de l'école – former des professionnels pour le 21e siècle. Vol1: L'avenir des formations professionnelles des jeunes.* La Documentation Française. Paris.

Dehnbostel P. et al., 1996. *Neue Lernorte und Lernortkombinationen – Erfahrungen und Erkenntnisse aus dezentralen Berufsbildungskonzepten.* Bielefeld: Bertelsmann.

Dehnbostel P., Dybowski G., 1997/98. Neue Modelle arbeitsgebundenen Lernens in der Ausbildung – zwei Fallstudien. *In*: Forschungsinstitut für Arbeiterbildung, ed. *Jahrbuch Arbeit, Bildung, Kultur* (Vol15/16). Recklinghausen. pp.113ff.

Dehnbostel P., Dybowski G., eds., 1999. *Lernen, Wissensmanagement und berufliche Bildung.* Bielefeld: Bertelsmann.

Dehnbostel P., Dybowski G., 1998. Betriebliche Innovations- und Lernstrategien als Herausforderung dualer Ausbildung. *Personal* 50, pp.324ff.

Dewey J., 1993. *Demokratie und Erziehung. Eine Einleitung in die philosophische Pädagogik.* Beltz: Weinheim and Basle.

Dohmen G., 1966. *Das lebenslange Lernen. Leitlinien einer modernen Bildungspolitik.* BMBF. Bonn.

Dohmen G., 1999. *Informelles Lernen. Karteikarte.* Berufsbildung 53, pp.25 f.

Dubs R., 1993. Stehen wir vor einem Paradigmenwechsel beim Lehren und Lernen? *Zeitschrift für Berufs- und Wirtschaftspädagogik* 89, pp.449ff.

Dybowski G., Töpfer A., Dehnbostel P., Kling J., 1999. *Betriebliche Innovations- und Lernstrategien. Implikationen für berufliche Bildungs- und betriebliche Personalentwicklungsprozesse.* Bielefeld: Bertelsmann.

Erpenbeck J., Heyse V., 1996. Berufliche Weiterbildung und Kompetenzentwicklung. *In*: Arbeitsgemeinschaft QUEM, ed. *Kompetenzentwicklung '96.* Berlin/Münster: Wachsmann.

European Communities, 1999. *Continuing training in enterprises: facts and figures.* Luxembourg.

Fischer M., 1999. *Implizites Lernen. Karteikarte.* Berufsbildung 53, pp.27 f.

Fraunhofer-Gesellschaft, ed., 1997. Nationale Konferenz Deutschland für lebenslanges Lernen 1996. Konferenzband der Tagung *'Lebenslanges Lernen. Aufbruch in die Zukunft. Modetrend oder Bildungsbedarf'* am 25./26.11.1996 in Bonn-Bad Godesberg. Erlangen.

Gerstenmaier J., Mandl H., 1995. Wissenserwerb unter konstruktivistischer Perspektive. *Zeitschrift für Pädagogik* 41, pp.867ff.

Greinert W.-D., 1977. *Konzepte beruflichen Lernens*. Stuttgart: Holland Josenhans.

Greinert W.-D., Wiemann G., eds., 1992. *Produktionsschulprinzip und Berufsbildungshilfe*. Baden-Baden: Nomos Verlag.

Grünewald U., 1997. Formen arbeitsplatznaher Weiterbildung. Ergebnisse der europäischen Weiterbildungserhebung. *In*: Geißler K., von Landsberg G., Reinartz M., eds. *Handbuch Personalentwicklung und Training*. Cologne.

Hanf G., 1999. *Zusatzqualifikationen im europäischen Systemvergleich – Zwischenbericht*. Duplicated manuscript. Berlin.

Hensge K. (ed.), 1998. *Handlungsorientierte Ausbildung der Ausbilder. Erläuterungen zum neuen Konzept*. Bundesinstitut für Berufsbildung. Bielefeld: Bertelsmann.

Kloas P.W., 1997. *Modularisierung in der beruflichen Bildung. Modebegriff, Streitthema oder konstruktiver Ansatz zur Lösung von Zukunftsproblemen?* Ed.: Bundesinstitut für Berufsbildung, Der Generalsekretär, Bielefeld: Bertelsmann.

Koch R., 1998a. *Duale und schulische Berufsausbildung zwischen Bildungsnachfrage und Qualifikationsbedarf. Ein deutsch-französischer Vergleich*. Berichte zur beruflichen Bildung 217. Bielefeld: Bertelsmann.

Koch R., 1998b. *Formen und Trends arbeitsplatzbezogener Ausbildung des Fachkräftenachwuchses aus internationaler Perspektive*. Unpublished manuscript, Berlin.

Koch R., Reuling J., eds., 1995. *Europäische Dimension der Berufsbildung. Erfahrungen und Aufgaben der Berufsbildungspolitik der Mitgliedsstaaten der Europäischen Union*. Kongreßbericht Bundesinstitut für Berufsbildung Berlin. Bielefeld: Bertelsmann.

Kutscha G., 1999. Modularisierung in der beruflichen Bildung. *In*: BiBB, ed. *Qualifizierungskonzepte für die Zukunft – Welche neuen Lernortkombinationen sind notwendig?* Berichte zur Beruflichen Bildung No 231. Bielefeld.

Lennartz D., 1997. Neue Strukturmodelle für berufliches Aus- und Weiterbilden. *Berufsbildung in Wissenschaft und Praxis (BWP)* 26, pp.13ff.

Lipsmeier A., 1991. *Berufliche Weiterbildung. Theorieansätze, Strukturen, Qualifizierungsstrategien, Perspektiven*. Frankfurt/Main.: Verlag der Gesellschaft zur Förderung arbeitsorientierter Forschung und Bildung.

Manning S., 1996a. Modelle von Doppelqualifikationen in westeuropäischen Bildungssystemen. *In*: Bremer R., ed. *Doppelqualifikation und Integration beruflicher und allgemeiner Bildung*. Modellversuche zur beruflichen Bildung, No 40, Bielefeld: Bertelsmann.

Manning S., ed., 1996b. *Qualifications with a dual orientation towards employment and higher education. A comparative Investigation of Innovative Schemes in seven European Countries*. Intequal Report 1. Berlin.

Nielse S.P., 1996. Berufspädagogische Innovation in Dänemark. *Berufsbildung* No 7, pp.57ff.

Oates T., 1998. A converging system? Explaining difference in the academic and vocational tracks in England: *In*: Nijhof W., Streumer J., eds. *Key Qualifications in Work and Education*. Dordrecht, the Netherlands. pp.91ff.

OECD, 1994. *Vocational education and training for the 21st century, opening pathways and strengthening professionalism – background and issues*. Paris: Conference document (DEELSA/ED/WD 31).

Reich K., 1996. *Systemisch-konstruktivistische Pädagogik. Einführung in Grundlagen einer interaktionistisch-konstruktivistischen Pädagogik*. Neuwied et al.: Luchterhand.

Reuling J., 1998a. Zum Flexibilitätspotential modularer Systeme – englische Konzepte. Erfahrungen und Entwicklungen. *Berufsbildung in Wissenschaft und Praxis (BWP)* 27, pp.16ff.

Reuling J., 1998b. *Modularisierung in den Niederlanden*. Duplicated manuscript. Berlin.

Reuling J., 1996. Modularisierung in der englischen Berufsbildung. *Berufsbildung in Wissenschaft und Praxis (BWP)* 25, pp.48ff.

Rothe G., 1994. Alternierende Ausbildung in Frankreich und Deutschland. Merkmale – Fragestellungen – Vergleichsansätze. *Bildung und Erziehung*, No 3, pp.249ff.

Schmidt H., 1998. Gedanken zum Nutzen beruflicher Bildung. *In*: BiBB, ed. *Nutzen der beruflichen Bildung*. Dokumentation der Fachtagung des BiBB am 25./26.09.1997. Bielefeld: Bertelsmann. pp.135ff.

Schmidt-Hackenberg B. et al., 1989. *Neue Ausbildungsmethoden in der betrieblichen Berufsausbildung. Ergebnisse aus Modellversuchen*. Berlin, Bonn: Bundesinstitut für Berufsbildung.

Schmidt-Hackenberg B. et al., eds., 1999. *Ausbildende Fachkräfte – die unbekannten Mitarbeiter*. Bundesinstitut für Berufsbildung. Berichte zur beruflichen Bildung 224. Bielefeld: Bertelsmann.

Schön D.A., 1983. *The reflective practitioner: How professionals think in action*. London: Temple Smith.

Sennett R., 1998. *Der flexible Mensch. Die Kultur des neuen Kapitalismus*. Berlin: Berlin Verlag.

Steinborn Chr., 1999. Ausbildende Fachkräfte: die versteckte Mehrheit. *In*: Schmidt-Hackenberg B., et al., eds. *Ausbildende Fachkräfte – die unbekannten Mitarbeiter*. Bundesinstitut für Berufsbildung. Berichte zur beruflichen Bildung 224. Bielefeld: Bertelsmann. pp.109ff.

van Cleve B., 1998. Neues im Westen: Flexibilisierung und Europäisierung der Weiterbildung in den Niederlanden. *In*: Davids S., ed. *Modul für Modul zum Berufsabschluß. Berufsbegleitende Nachqualifizierung zwischen Flexibilität und Qualitätssicherung*. Bielefeld: Bertelsmann. pp.249ff.

van Lieshout H., 1997. Strukturierung beruflicher Qualifikationen – ein niederländisch-deutscher Vergleich. *Berufsbildung in Wissenschaft und Praxis (BWP)* 26, pp.22ff.

Young M., Guile D., 1997. New possibilities for the professionalisation of VET professionals. *Journal of European Industry and Training*, 21, pp.203ff.

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This is the background publication of the second report on vocational education and training (VET) research in Europe published by Cedefop in 2001. It contains a number of contributions on current research in the framework of generating and using skills and competences. The basic theories, methodologies and results are presented and the main implications for future research, policy and practice are discussed within each contribution.

Some key issues addressed include:

- steering VET systems, funding and the changing roles of VET professionals;
- learning and training within the context of lifelong and lifewide learning;
- training, employment and development of human resources from a company perspective;
- labour market dynamics and their impact on skills and competences;
- individual performance, social exclusion and transition from education/training to work;
- VET research in selected non-EU countries.

We hope that this publication coupled with the complementary synthesis report, will enhance understanding of research undertaken within Europe and contribute to closer cooperation between researchers and decision makers at all levels.

Pascaline Descy, Manfred Tessaring

EN

volume I

Second report on vocational training research in Europe 2000: background report

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Volume 2

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440

Volume 1

Preface 5

Part one: VET systems, coordination with the labour market and steering

Steering, networking, and profiles of professionals in vocational education and training (VET)
Lorenz Lassnigg 11

Financing vocational education and training
Andy Green, Ann Hodgson, Akiko Sakamoto, Ken Spours 71

How to improve the standing of vocational compared to general education A collaborative investigation of strategies and qualifications across Europe
Johanna Lasonen, Sabine Manning 115

Certification and legibility of competence
Annie Bouder, Laurence Coutrot, Édith Kirsch, Jean-Louis Kirsch, Josiane Paddeu, Alain Savoyant, Emmanuel Sulzer 169

The changing institutional and political role of non-formal learning: European trends
Jens Bjørnåvold 213

The problems raised by the changing role of trainers in a European context
Mara Brugia, Anne de Blignières 253

Part two: Lifelong learning and competences: challenges and reforms

Lifelong learning – How the paradigm has changed in the 1990s
Martina Ní Cheallaigh 265

Training for new jobs: contents and pilot projects
Jeroen Onstenk 319

Vocational training and innovative practices in the environmental sector A comparison of five EU Member States, with specimen cases
Roland Loos 357

Company-based learning in the context of new forms of learning and differentiated training paths
Peter Dehnbostel, Gisela Dybowski 391

Volume 2

Part three: Training and employment in a company perspective

Globalisation, division of labour and training needs from a company view
Johan Dejonckheere, Geert Van Hootegem 7

Training, mobility and regulation of the wage relationship: specific and transversal forms
Saïd Hanchane (With the assistance of Philippe Méhaut) 45

The employment and training practices of SMEs Examination of research in five EU Member States
Philippe Trouvé (With the collaboration of: Elyes Bentabet, Bruno Courault, Mary Creagh, Clémence Millière, Joseph Reindl, Markus Fecht, Hartmut Reineke) 91

Human resource development in Europe – at the crossroads
Barry Nyhan 233

Reporting on human capital; objectives and trends
Sven-Åge Westphalen 249

Vocational training research on the basis of enterprise surveys: An international perspective
Lutz Bellmann 279

Part four: Employment, economic performance and skill mismatch

The skills market: dynamics and regulation
Jordi Planas, Jean François Giret, Guillem Sala, Jean Vincens 313

Economic performance of education and training: costs and benefits
Alan Barrett 383

Unemployment and skills from a dynamic perspective
Joost Bollens 405

Overqualification: reasons, measurement issues and typological affinity to unemployment
Felix Büchel 453

Forecasting skill requirements at national and company levels
Rob A. Wilson 561

442

Volume 3

Part five: Individual performance, transition to active life and social exclusion

Training and individual performance: evidence from microeconometric studies
Friedhelm Pfeiffer 7

The effect of national institutional differences on education/training to work transitions in Europe: a comparative research project (CATEWE) under the TSER programme
Damian F. Hannan et al. 43

Education and labour market change: The dynamics of education to work transitions in Europe
A review of the TSER Programme
Damian F. Hannan, Patrick Werquin 91

Selection, social exclusion and training offers for target groups
Jan Vranken, Mieke Frans 137

Training and employment perspectives for lower qualified people
Jittie Brandsma 173

Part six: VET research activities outside the European Union

Research on vocational education and training at the crossroads of transition in Central and Eastern Europe
Olga Strietska-Ilina 209

VET research in other European and non-European countries
Uwe Lauterbach et al. 319

Annex: VET related research on behalf of the European Commission

Research on vocational education and training in the current research framework of the European Commission
Lieve Van den Brande 377

Synopsis of selected VET related projects undertaken in the framework of the Leonardo da Vinci I programme 387

Targeted socio-economic research (TSER)
Project synopses 427

443

Part three:

Training and employment in a company perspective

Globalisation, division of labour and training needs from a company view

Johan Dejonckheere, Geert Van Hootegem

Abstract

In a global economy, where competition for innovation dominates and customers no longer accept standardised mass products or services but ask for individual solutions, markets become unstable, insecure and complex. Companies have to develop organisational structures and channels of information flow that can cope with uncertainty. There is widespread agreement that production can no longer be organised according to Tayloristic and Fordist principles and most studies talk about a 'new organisation logic'. More flexible organisation forms are needed which allow for extensive information and knowledge exchange to improve and speed up innovation processes. Key elements of the new organisation logic are outsourcing of non-core activities, transition to a process-oriented structure, introduction of teamwork, empowerment, participation in decision-making, etc. The central argument is that global competitiveness can only be achieved through changes in labour deployment policy and human resource orientation. Labour can no longer be considered a risk factor or something to be kept in line by means of a maximum division of labour. On the contrary, division of labour has to be reduced and human capital fully exploited. Until now, empirical research has not shown a widespread implementation of new organisation concepts.

Globalisation and changes in the division of labour require new skills, competences and work attitudes from employees. This imposes major challenges on vocational and educational training: work-process knowledge, on-the-job training, multiskilling, creativity, lifelong learning, employability, etc. have become keywords. Competences acquired in this new VET philosophy can influence and enhance the process of globalisation and changing division of labour.

Table of contents

1. Globalisation in general 9
1.1 Introduction: the transnational strategy 9
1.2 New competitive criteria in the global economy 10
1.3 The relationship between information and communication technologies and globalisation 11
1.3.1 From globalisation to innovations in the field of ICTs 11
1.3.2 From ICTs to increased globalisation 11
1.3.3 Conclusion 13
1.4 Some basic characteristics of the global economy 13
1.5 How global is our economy? Rhetoric versus reality 14
1.5.1 The globalisation thesis 14
1.5.2 Criticism of the globalisation thesis 15
1.5.3 Conclusion 16

2. Globalisation and changes in the division of labour 16
2.1 The four meanings of Fordism 17
2.1.1 The Fordist compromise 17
2.1.2 Vertical integration 17
2.1.3 The Tayloristic division of labour 18
2.1.4 The Fordist employment relationship 20
2.1.5 Summary 21
2.2 Globalisation and the end of Fordism: theory 21
2.2.1 The end of mass production and consumption 21
2.2.2 Towards vertical deintegration 23
2.2.3 The end of traditional division of labour and employment relationships 24
2.3 Globalisation and the end of the Fordism: rhetoric versus reality? 27
2.3.1 Empirical research on new production concepts 27
2.3.2 In search of explanations 28
2.3.3 Empirical research on outsourcing 29
2.4 Summary and conclusion 29

3. Globalisation and challenges to employee skills and company training needs 30
3.1 What do we mean by 'human capital'? 32
3.2 The need for human capital in the global economy 32
3.2.1 Knowledge 32
3.2.2 Skills and competencies 34
3.2.3 Work orientations 34
3.2.4 Globalisation and upskilling: some training aspects 35
3.3 Once again: rhetoric versus reality? 36
3.3.1 Globalisation and deskilling 36
3.3.2 Upskilling versus deskilling: organisational choice 37
3.4 Globalisation and challenges to VET 38

4. Globalisation and challenges to VET: some policy recommendations 39

5. Summary 40

Bibliography 41

446

In the first chapter, we briefly discuss some general features of globalisation. We then analyse the consequences of globalisation on company restructuring, and more specifically on the division of labour. In the third chapter, we explore the challenges imposed by these changes on required qualifications and company training needs. Finally, we draw some more general conclusions.

1. Globalisation in general

1.1 Introduction: the transnational strategy

Globalisation can be defined as a 'process through which an increasing proportion of economic, social and cultural transactions take place directly or indirectly between parties in different countries' (Radice 1999, p. 3). However, in literature, there appears to be a lack of consensus about what globalisation is and means, let alone what consequences it brings. There are almost as many concepts of globalisation as there are disciplines (Parker 1996).

Very often, a distinction is made between internationalisation and globalisation. *Internationalisation* refers to an increasing spread of economic activity across national boundaries (Lane 1995). There are two ways in achieving this. Firms can extend their markets across national borders by exporting a significant share of their production. In this case, production remains in the home country but distribution networks may be built up in foreign countries. Firms can also place a significant proportion of direct investment in foreign countries. A company that operates in many different countries but retains a clear home base in one particular country is called a *multinational company* (MNC). The concept of *globalisation* goes a step further. It has given rise to the emergence of companies transcending national borders, i.e. *transnational companies* (TNC). These companies 'no longer have a national home base but source, produce and market on a global scale, as indicated by their business strategy' (Lane 1995, p. 83).

The distinction between multi and transnational strategies stems from the 1980s. For M. Porter, competition in the global economy requires the integration of activities on a worldwide basis rather than splitting the world into isolated markets or sites for operations (1986). Porter described global industries as those in which a firm's competitive position in one country is significantly influenced by its position in other countries. Global industries, therefore, impose daunting coordination requirements upon firms that seek to compete successfully. These requirements are best met by so-called 'transnational companies'. Bartlett and Ghosdal (1989) contrasted transnational enterprises to companies using global, multinational or international strategies.

The *global* strategy is used when an enterprise locates its headquarters in one country while its operations are performed in one or more other countries. Many domestic organisations adopted this approach to broaden their markets by exporting their products. Under this approach, an organisation operates in a centralised manner. *Efficiency*, obtained through economies of scale, is the key criterion of effectiveness sought by the global company.

In a *multinational strategy*, national or regional operations are relatively autonomous and decentralised to increase sensitivity to differences among the individual countries in which it operates. The key competitive issue is *responsiveness* to local markets.

Under an *international strategy*, enterprises compete on a worldwide basis against other international companies. The international approach calls for a more horizontal structure and establishes strategic links between countries in which a firm operates. Because the key to success lies in an enterprise's ability to transfer *knowledge* to overseas units, *learning* constitutes its key issue (Boudrea et al. 1998).

According to Bartlett and Ghosdal (1989), organisations will be most competitive if they simultaneously meet the challenges of *global efficiency, local responsiveness and learning*. Meeting these challenges requires a firm to

adopt a so-called *transnational strategy* in which each organisational activity is performed in a location where it can be best accomplished. Clearly, the transnational strategy poses the greatest challenges for organisations seeking to increase global competitiveness. The primary difficulty is to design an organisational form capable of being efficient and responsive, enabling transfer of knowledge across locations. According to Boudreau et al. (1998), designing effective transnational organisations depends to great extent on the effective deployment of advanced *information and communication technologies*.

Up to now, some general issues related to company strategies in a global context have been addressed. We now elaborate further on new competitive criteria emerging in the global environment (1.2) and the relationship between globalisation and modern technologies (1.3), since these aspects can influence emerging changes in the division of labour and company training needs. The next paragraph (1.4) gives some basic characteristics of the process of globalisation and we end by raising some critical points on the so-called globalisation thesis (1.5).

1.2 New competitive criteria in the global economy

Globalisation has contributed greatly to the stiffening of competition as national monopolies or oligopolies have collapsed. However, the fact that globalisation at the same time results in the establishment of new competition criteria is even more important. In the 1980s, organisations in the global economy were thought to be most successful if they simultaneously met the challenges of global efficiency, local responsiveness and learning (cf. supra; Bartlett and Ghosdal 1989). A decade later, the global competition criteria were examined again in an extensive survey by Schienstock et al. (1999).[1] The study argues that to participate in global competition today, companies in all parts of the world must be capable of selling high quality products and services for a reasonable price and of delivering them within a short period of time. 'Price, quality and time can be seen as *entrance barriers* to the global market. Success, however, should depend upon the capability of companies to be first on the market with new products that meet their customer's demands' (Schienstock et al. 1999, p. 50). Under the conditions of global competition, innovativeness, flexibility and customisation are thought to be the *key criteria for economic success*.

This change in dominant competition criteria has caused major structural changes in work (Schienstock et al. 1999). Huys et al. (1995), consider flexibility and flexible automation to be important driving forces behind organisational restructuring. Initially, automation and high productivity was only possible combined with mass production, whereas customer orientation required small batch production. As a consequence, a choice had to be made between standardised, price competitive mass production and customer oriented, small batch quality production. The emergence of microelectronics and the breakthrough of flexible automation contributed to the undermining of this traditional distinction. Flexible automation makes it possible to meet new market demands in high volume production too. Furthermore, modern technology allows the 'small batch producer' to improve his cost-efficiency. In this way, the traditional gap between productivity and flexibility seems to have narrowed. Sorge and Streeck (1988) call this strategy of combining productivity and flexibility 'diversified quality production'. Especially in high wage countries, it could be an important survival strategy to remain competitive in the global market (Huys et al. 1995).

In summary, innovativeness, customisation and flexibility are considered to be the most important competitive criteria in a global context. *Customisation and flexibility* are related to Bartlett and Ghosdal's local responsiveness and can have serious implications for the division of labour when conducting business on a global scale. *Innovativeness* refers to the

[1] HIVA-researchers, Van Hootegem and Huys, were also involved in this survey. We will regularly refer to the text, since it gives a comprehensive overview of emerging changes in the current economic environment as well as organisational answers to new challenges.

445

learning and knowledge aspect in an international context. Learning and innovation are closely related, as learning is an important and necessary input in the innovation process (Lundvall and Johnson 1993). This can modify employee skill needs and therefore company training needs. These issues are yet to be fully addressed. We first underline the importance given in literature to customisation, flexibility and innovativeness in a global context in a quotation from the first Cedefop background report:

'All relevant international studies on the subject confirm that the decisive factors affecting the competitiveness of companies are:

- the capacity for rapid product and process innovation and the introduction of new products on the market (innovativeness, time to market);
- swift reactions to dynamic changes in the environment and turbulent markets (customer orientation, flexibility);
- the internationalisation of corporate strategies (globalisation, ability to take action on worldwide markets)' (Dybowski 1998, p. 117).

1.3 The relationship between information and communication technologies and globalisation

There is widespread agreement that the content of work is increasingly determined by activities such as information acquisition, processing and information-based decision-making. Major innovations in the field of information and communication technologies (ICTs) have enhanced and contributed to this evolution. It is essential to appreciate that the impact of new ICTs is not limited to a separate information business as a leading sector. 'What really takes place is the informatisation of the whole economy, with more and more jobs for white-collar as well as blue-collar workers including information work to a greater extent. What really characterises the current transformation process, is the fact that all sectors and industries are increasingly interpenetrated by information work and that human work will occur more and more through the intermediary of ICTs' (Schienstock et al. 1999). We now look at the relationship between this evolution and the process of globalisation.

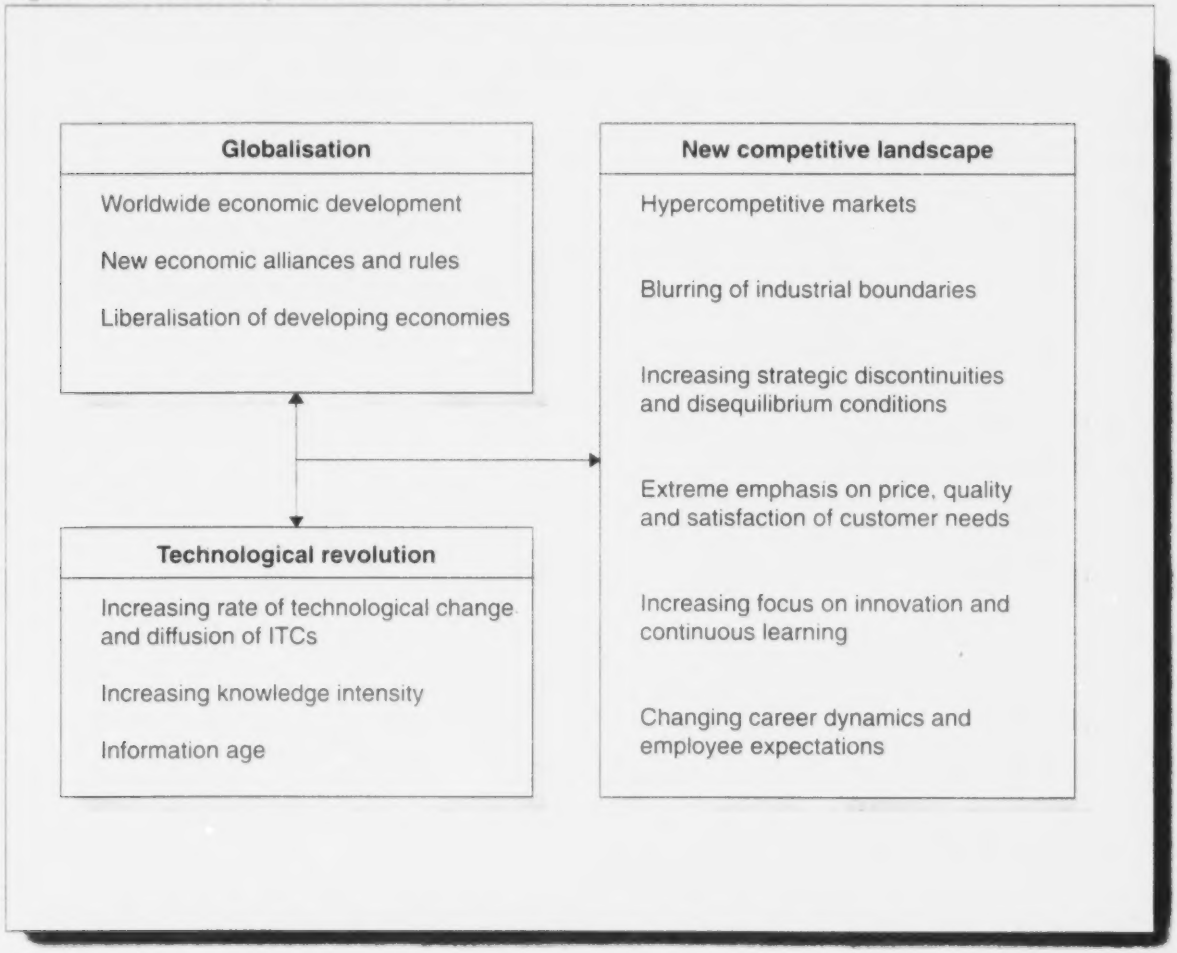
1.3.1 From globalisation to innovations in the field of ICTs

The international motto 'act global, think local' (Parker 1996, p. 485) puts a heavy burden on the information processing capacity of companies. Literature has long recognised the complex *information processing needs* associated with conducting business operations on a global scale. Managing interdependencies between nations is inherently more complex than managing activities within a single nation, resulting in huge demands for coordination and communication. ICTs can help meet these demands. Information processing needs, resulting from globalisation, speeded up the development of new ICTs. The global economy has proven to be an ideal environment for enhancing innovations in the field of ICTs. At the same time, the growing application of modern ICTs throughout the economy is a main factor in supporting and accelerating the process of globalisation.

1.3.2 From ICTs to increased globalisation

There is little doubt that modern ICTs have speeded up the process of globalisation. Boudreau et al. (1998) go one step further. They argue in favour of an active role for information technologies in creating competitive advantages under business configurations, rather than a passive adaptation to changing processing needs. ICTs not only *enhance* the process of globalisation, but strategic use of ICTs also allows companies to create *competitive advantages*. First, modern ICTs can overcome spatial and temporal dispersion that accompanies an increased global reach. This characteristic is extremely important for a transnational firm, operating more effectively if it can transcend geographical boundaries. Further, ICTs facilitate setting up networks of alliances and partnerships with other organisations. Electronic networking has almost become a prerequisite

Figure 1: The new competitive landscape


Globalisation
Worldwide economic development
New economic alliances and rules
Liberalisation of developing economies
Technological revolution
Increasing rate of technological change and diffusion of ITCs
Increasing knowledge intensity
Information age
New competitive landscape
Hypercompetitive markets
Blurring of industrial boundaries
Increasing strategic discontinuities and disequilibrium conditions
Extreme emphasis on price, quality and satisfaction of customer needs
Increasing focus on innovation and continuous learning
Changing career dynamics and employee expectations

Source: Based on Hitt et al. 1998, p. 24

for survival in global competition. The authors consider flexibility to be a decisive advantage of modern ICTs. Parts of (virtual) organisational networks may be formed, disbanded and reformed to respond rapidly to changing business needs. Flexibility is an important asset for transnational companies because opportunities in global markets are constantly shifting (Boudreau et al. 1998).

The arguments above indicate why ICTs can have a stimulating effect on globalisation in general. We now take a closer look at developments in the service sector. Services are often characterised as activities in which output is essentially consumed when produced (Quinn 1986). Due to modern ICTs, however, for many services this direct relationship between production and consumption can be broken up. As Soete (1996) puts it: 'Information and communication technologies, almost by definition, allow for the *increased tradability of service activities*, particularly those which have been most constrained by the geographical or time proximity of production and consumption. By bringing in a space or time/storage dimension, information technology will make possible the separation of production from consumption of such activities, hence increasing the possibility of such activities' (p. 48). We can therefore conclude that ICTs not only enhance globalisation in industrial activities, but also and especially allow for globalisation of service activities.

1.3.3 Conclusion

We conclude by arguing that technological development and globalisation mutually reinforce each other. Modern ICTs create better opportunities for conducting business operations on a global scale. Globalisation creates special needs enhancing technological development. This is also the conclusion of a study devoted to the introduction of the ICT application e-mail (Van den Hooff 1997). The introduction of e-mail enables processes to change, but at the same time, the changing nature of these processes creates additional demands on the system. Technological developments change the application possibilities, while developments in application change demands on the technology in hand.

Thus, the development of new ICTs and globalisation becomes increasingly interwoven. The two concepts are frequently associated with each other in literature. It therefore becomes difficult, if not impossible, to attribute certain evolutions to one or the other. It is the *dynamic interaction* between technological revolution and globalisation that is expected to cause changes in the competitive landscape (and by consequence in organisational restructuring, skill and training needs; cf. infra). The following scheme illustrates this interrelationship between globalisation and the technological revolution. It also recaptures the link with (some of) the above-mentioned changing competitive criteria.

1.4 Some basic characteristics of the global economy

In this paragraph, we give some important characteristics of the process of globalisation. In our opinion, the most important aspect of globalisation is the far-reaching spatial *disconnection between production and consumption*. Economic goods are no longer created where or close to where they are consumed, but where they can be created most efficiently. An increasing part of activities becomes subject to the 'make it or buy it' decision.

These tendencies are not new at all. They have been around for a long time at regional or national levels. But in recent years, economic logic has been extended in two ways:

a) the disconnection between production and consumption and the logic of the 'make or buy' decision increasingly takes place in a *mondial*, rather than a regional or national perspective. Companies have a growing international choice of locations for each of their activities. It is no longer enough for a would-be host country to create a competitive macroeconomic landscape. It must also provide the right conditions to attract or keep individual business activities. The closure of the Belgian Renault plant (in Vilvoorde) illustrates this. Renault-Vilvoorde was perfectly cost-effective and delivered high quality products. For years, the plant had been Renault's number one in the field of flexibility. Still, the plant had to disappear a couple of years ago. There was overcapacity in the sector and Renault wanted greater concentration of its activities. In Vilvoorde, there was no place for such a concentration movement. Further, other Renault plants had gradually eliminated their 'flexibility gap' with Vilvoorde. The plant, locally seen a well performing company, obviously no longer fitted in with the global strategy of Renault;

b) the disconnection between production and consumption no longer limits itself to industrial activities. Modern ICTs make it possible to disconnect the production and consumption of *services* too. Services therefore become tradable, and the creation of them unlinked to location. The increased use of remote call centres for the handling of customer queries illustrates this tendency very well. In Belgium, for example some companies recently decided to close down their internal customer departments and relocate the handling of customer queries to countries like Ireland, Canada, etc.

To put in it in terms of Williamson's transaction cost approach (1981), the impact of the *site asset specificity* of economic transactions seems to decrease. Due to the application of new communication techniques and changing transport patterns, production processes become more mobile. The undermining of the

site-specificity of economic transactions is enhanced by the implementation of new logistical systems, overcoming disadvantages in the field of storage and transhipment which are inherent to delocalisation (Van Hootegem 1999). In the services sector, site-specificity tends to decreases too, due to the increasing informatisation of work and digitalisation of information (Schienstock et al. 1999). The following quotation (Huws 1999, p. 50) proclaims 'the death of site specificity' very well:

'No longer constrained to have most of their information processing activities on one site, corporations are now free to seek out the best location on an activity by activity basis, with the whole world to choose from. Thus a company might decide to get its manufacturing done in Mexico, its R&D in California, its data entry in the Philippines, its software development in India and establish two call centres, one in Canada and one in the Netherlands. In each case, the site would be selected on the basis of availability of skills and the advantageousness of other local labour market conditions, tax regime, etc. If the market became more competitive, or local workers started demanding higher wages or better conditions, or the local tax regime changed, it might switch: it might, for instance, go to Indonesia for manufacturing, to the Dominican Republic for data entry, to Russia for programming or start using homeworkers for some of the more routine call centre functions'.

Research has shown that companies anticipate more success in regaining global competitiveness if they benefit from the specific advantages of their regional environment. Those companies that have reacted specifically to different environments have been more successful than others who believed in a 'one best way' of organising business (Kern 1994). Due to intensive global competition, companies are forced to look for the most supportive environment for specific functions or products worldwide.

As cost leadership has to be combined with high quality, quick delivery and product differentiation, companies break down their value chain into discrete functions and locate them where they can be performed most effectively wherever companies can *take advantage of the local environment* (Ernst and Lundvall 1997). Cost-sensitive production is transferred to those regions with cheap labour while knowledge-intensive production and services will be located in regions with highly qualified labour and a well-developed information infrastructure, as illustrated in the quotation above.

Up to now, we focused on theoretical arguments regarding the process of globalisation. In the following paragraph, we submit a theoretical approach to an empirical test.

1.5 How global is our economy? Rhetoric versus reality

1.5.1 The globalisation thesis

More than a decade ago, Porter (1986; cf. supra) talked about the 'integration of activities on a worldwide basis' and 'firm whose competitive position in one country is significantly influenced by its position in other countries'. Nowadays, this situation is thought to be applicable to an increasing amount of companies:

- 'There is little doubt that the competitive landscape has changed dramatically over the past dozen years. [...] Organisations have extended their activities around the world' (Boudrau et al. 1998, p. 120).

- 'Organisations and their executives are deeply involved in one of the greatest transformations of all time. The geographic boundaries, psychic distances, and politically imposed national borders that have defined our concepts of space and time have been substantially altered' (Zahra 1998, p. 10).

- 'The market has become the credo and globalisation has become the master concept of our time. [...] No country today appears to be immune to the pressures emanating from the globalisation trend' (Lee 1999, p. 23).

The quotations above can serve as illustrations of how the topic of globalisation is usu-

ally dealt with in literature. It has become almost axiomatic that business success depends on expanding the global reach of the organisation and that this evolution is accelerated by innovations in the field of ICTs. According to the new orthodoxy, we have entered a new phase in world history in which cross-border flows in goods and services, investment, finance and technology are creating a world market where the law of one price prevails. 'Globalists assume that the world economy is now so integrated that the constraints of location and of institutional frameworks are increasingly irrelevant: that corporations can simply take a «random walk» in the world market, escaping the confines of any nation-state' (Weiss 1998, p. 185). Some authors, however, dare to question this so-called *'globalisation thesis'*. In the next paragraph, we gather some criticism of the mainstream literature on globalisation.

1.5.2 Criticism of the globalisation thesis

One of the authors seriously questioning tendencies prevailing in literature is U. Huws (1999): 'Perhaps one of the most dangerous illusions is the notion that the new information technologies mean that anything can now be done by anyone, anywhere and that the entire population of the globe has become a potential workforce. [...] Although it is full of euphemistic descriptions of the «death of distance» or the «end of geography», the literature on globalisation is surprisingly *short on empirical evidence*' (p. 47).

The author continues by arguing that far from all human activities are delocalisable. On the contrary, the majority of jobs are still, and seem likely to remain, firmly anchored to a given spot because they involve the extraction of raw materials, their processing, the manufacture of material commodities, transport, construction or the delivery of physical services. The so-called 'dematerialisation thesis' does not apply to a whole range of activities, and the author speaks of the *'myth of the weightless economy'* (Huws 1999). In the same line, Waters (1998) argues that the impact of globalisation will be greatest where products are mobile and fluid and lowest where products are concrete and material. Materialised activities remain very important in our economy and allocation of them continues to be influenced by site asset specificity. For an example of the persisting importance of the 'site' or location, we return to the Renault concern. A few months after the closure of the plant in Belgium, a new plant was opened in Russia, aimed at conquering the East-European market. Apparently, proximity to the market is still highly appreciated by a 'global' concern such as Renault. It is often argued that labour costs and regulations force enterprises to relocate their production in other countries. Several empirical studies have shown, however, that this is not true on the whole: labour costs are relatively low in automatised plants like automotive industry; many of these relocations are done to enter new markets (e.g. eastern Europe) and not to replace existing production in 'old' markets.

Hirst and Thompson (1996) question the globalisation thesis on the grounds that its supporters can only offer evidence of the *internationalisation* of the economy and not its *globalisation* – the difference between these concepts being explained earlier on. The empirical centrepiece of Hirst and Thompson's book entitled *Globalisation in question* (1996), shows that multinational corporations remain predominantly grounded in the national economies from which they originate, conducting most of their activities there and repatriating profits. 'Thus Unilever and Shell are really still Dutch companies, GM and AT&T are American and Toyota and Sony Japanese companies. There are still very few true TNCs. The main logic remains the MNC-pattern, characterising an international rather than a global economy' (Waters 1998, p. 11). This is also the conclusion of the investigation of the 100 largest companies in the world by Ruigrok and Van Tulder (1995b). While laying claim to being 'global' is seen as a mark of respectability for the modern company, the number of genuinely transnational companies still seems to be rather small.

Lane (1995) gives more or less the same criticism by arguing that 'there has been a notable increase in world trade and an escalation in foreign direct investment, accompanied by

new forms of international integration and by some weakening of national institutions. But globalisation, however defined, is as yet only an emergent rather than a completed process, which has resulted in various geographical blocs rather than in one global sphere' (p. 99).

Other critics even doubt whether the process of *economic internationalisation* has accelerated so much or is such a new phenomenon as suggested in literature. They do so on the basis of empirical data on international trade and direct foreign investment. Proportionally, the most important industrial countries did not conduct more international trade in 1994 than in 1914 (Ruigrok and Van Tulder 1995a). The ratio between the world supply of foreign direct investment and the total world production was even lower in 1991 than in 1913 (Cuyvers 1994). Based on these indicators, it seems hard to disagree that the present period is by no means unprecedented (Weiss 1998). Furthermore, we can point to three additional trends inconsistent with the globalisation thesis (Wade 1996; Weiss 1998, p. 156):

a) *the national bases of production*. Even if we accept that national economies are increasingly integrated through trade and investment flows, it nevertheless remains the case that in all but the smallest economies, international trade constitutes quite a small share of GDP. For example, exports account for 12% or less of GDP in Japan, the US and a single Europe, meaning that around 90% of production is still undertaken for the domestic market;

b) *north-south divisions*. Whereas globalisation predicts more even distribution between north and south, world trade, production and investment remain highly concentrated in the wealthy northern countries of the OECD;

c) *regionalisation*. Finally, this predominantly northern trade and investment is itself becoming more geographically concentrated in intra-regional patterns. Intra-European trade, for example, now accounts for some 62% of Europe's total export trade. The importance of intra-regional trade now extends well beyond Europe. In the period from 1986 to 1992, for example, intra-Asian trade rose from 32.4 to 47.7%, reversing the traditional dominance of trade with the US (Weiss 1998).

1.5.3 Conclusion

Mainstream literature takes it for granted that the competitive landscape has changed dramatically in recent years, that geographic boundaries and physical distances have disappeared, that economic activity becomes dematerialised, that business success depends on expanding the global reach of the organisation, etc. A small but growing number of sceptics question these claims by pointing to the lack of empirical evidence, the enduring importance of site specificity, the increasing regionalisation instead of globalisation, the small quantitative importance of transnational strategy in relation to the attention it receives in literature, etc. In the eyes of the critics, globalisation is a 'vogue word of modern marketing literature' (Vandenbroucke 1996, p. 8), that entered the popular lexicon as 'the new buzz-word for the 1990s' (Weiss 1998, p. 167).

We agree with the critics that tendencies prevailing in mainstream literature should be taken with a pinch of salt. But, the fact that globalisation should be considered as an emergent rather than a completed process (Lane 1995) is no reason to brush aside or postpone the debate on the consequences of globalisation. On the contrary, discussion on future consequences should start today. In the next paragraph, we start this discussion by investigating the consequences of globalisation on work and the division of labour.

2. Globalisation and changes in the division of labour

There is widespread agreement that the emerging global economy, together with widespread use of modern ICTs, will bring with it new ways of organising production (Schienstock et al. 1999). Studies proclaim the end of both Taylorism and Fordism and talk about

'the new organisation logic'. This new logic is based upon a new division of labour. In this chapter, we will try to characterise the *new division of labour* and establish the link with globalisation. Before we can do so, we have to describe the logic shaping the traditional Taylorist/Fordist organisation model and reach a conceptual framework for understanding what is actually meant by 'division of labour'. This is a necessary step towards assessing changes in the division of labour, due to globalisation. In the following paragraphs we examine whether globalisation has changed traditional organisation logic and contributed to new ways of organising work and dividing labour.

2.1 The four meanings of Fordism

The term Fordism has been operationalised in countless ways in literature. These operationalisations can be grouped into four categories, covering various levels of analysis. We first take a look at the relationship between mass production and mass consumption at macro-level (2.1.1). We then descend to the interorganisational (2.1.2) and organisational (2.1.3) levels and investigate in detail the traditional division of labour *between* and *in* organisations. Finally (2.1.4), we focus on the employment relationship corresponding to this division of labour. The training aspect of the relationship will then lead us into the next chapter.

2.1.1 The Fordist compromise

This approach, stemming from the so-called French Régulation-school, places capital accumulation in the spotlight. By applying Tayloristic principles (cf. infra) in large-scale production processes, mass production of standardised products gradually became possible. Mass production led to productivity gains, which were partly used to augment employee wages. This resulted in a significant increase in employee purchasing power, supporting the demand for durable consumer goods. This, again, forced up employers' demands for capital goods and their investments, enhancing productivity and wages. In this way, mass consumption became the complement of mass production (Van Hootegem 1999). A stable distribution of productivity gains between labour and capital was achieved, as well as a stable relationship between consumption and investments (Dancet 1985). Beyond that, a social security system was developed, safeguarding employees from social exclusion. Of course, the transfer of productivity gains to the employee side did not occur automatically. It was part of the so-called *Fordist compromise:* in exchange for recognition and profit sharing, employees and their representatives had to hand over all control in the field of the organisation of work. Employees had to accept new production processes and leave their introduction to the employer (Dancet 1985).

The resulting Fordist production model was based on two important principles, namely 'functional specialisation and vertical integration' (Schienstock et al. 1999, p. 59). In the following, we further elaborate on these two principles. Before we can go to functional specialisation and division of labour within companies, we first have to figure out which activities of the production chain are grouped within one company. We call that the interorganisational division of labour.

2.1.2 Vertical integration

The second meaning of Fordism relates to large-scale organisations, resulting from the internalisation of upstream process parts: from commodities to final products. Fordist companies indeed tried to produce as many of their final products and components as possible in house. The following quotation from *Ford Times* (July 1908) illustrates this logic very well: 'In this plant, everything from screws to upholstery that enters into Ford cars will be manufactured' (Williams et al. 1992). In doing so, Ford was obviously *maximising the hierarchical or vertical integration* of the production process. This even resulted in the acquisition of rubber plantations and iron mines.

The logic of vertical integration can be explained by *transaction cost theory*. The argument is that vertical integration will reduce companies' control expenses (Schienstock et al. 1999). Internalising upstream segments

of production processes allows companies to overcome market failures and to realise economies of scale.

Since Ford, the vertically integrated company model stood for many other industrial (and even service) companies (Van Hootegem 1999). Today, however, the principle of vertical integration is increasingly questioned: company borders become more fluid and the interorganisational division of labour less evident. We will return to that later on. First, we focus on the best known, but perhaps also the most contested, meaning of Fordism, i.e. the application of Tayloristic production principles.

2.1.3 The Tayloristic division of labour

In this paragraph, we look at the division of labour within Fordist companies. We try to do so in a coherent way using a conceptual framework that takes the 'structure of the division of labour' as its focal point.[2] Before we can apply it, we first have to introduce the language of the framework.

2.1.3.1 What do we mean by 'division of labour'?

The final goal of a company consists of producing certain goods or services. We call that the company's *execution* function. To be able to produce goods or services, some adjacent activities are indispensable. Production has to be *prepared* (think of design, R&D, etc.), *supported* (e.g. quality control, maintenance) and *organised* (e.g. regulation, coordination). Therefore, companies can be reduced to clusters carrying out preparatory, executive, supportive and organising operations. When we look at the division of labour within companies, we focus on the way in which these operations are divided, grouped and linked to each other, i.e. the *structure of the division of labour*. The division of labour is the process of splitting up the operations to be performed, so that each job ultimately performs only a (small) portion of the total production process. The division of labour can vary across the following three dimensions (Huys et al. 1995, p. 13-18):

1. *Production organisation*. This is the result of the specific grouping and clustering of the functions of preparation, execution, support and organisation over various company divisions or production groups. There are several possibilities open up for a company:

   The structuring of execution can be '*operation-oriented*' (identical operations are grouped into production groups or departments; each group or department specialises in one or a few operations); '*flow-oriented*' (more or less the same, but the sequence of operations is fixed: the products go through all the necessary processes in a fixed and sequential order); or '*product oriented*' (one product, product family or product-market combination, is largely finished off in a clearly demarcated processing phase; each group makes one type of product).

   Supporting and preparatory operations can be *concentrated* as much as possible in separate staff divisions, giving rise to such classic divisions as maintenance, quality assurance, logistics, training, etc. However, an organisation can also chose to *deconcentrate* these operations, i.e. closely link or even incorporate them into the production departments. Each department is then responsible for its own maintenance, quality assurance, and so on.

   With respect to organisational operations, finally, firms may choose to *centralise* decision-making as much as possible at the pinnacle of the organisation, or to *decentralise* authority by devolving it to the production units. A decentralised organisation

[2] The conceptual framework, largely based on the socio-technical approach, was used in the so-called Belgian 'trend study'. This study aimed at answering the question whether the Tayloristic division of labour is a thing of the past or not. The description and further application of the framework is widely based upon Huys et al. (1995), Sels and Van Hootegem (1998), Huys et al. (1999) and Van Hootegem (1999). These are also the studies we refer to for a more detailed exploration of the framework and its practical application.

is characterised by greater horizontal co-ordination, whereas a centralised organisation implies a form of vertical (in most instances top-down) coordination or indirect coordination via a higher management level.

2. *Production technology.* The 'production organisation' indicates the division of operations between departments or production groups. Part of the operations, however, can be executed automatically. In production segments, machines, computers, robots, etc. are taking over an increasing number of operations from workers. Variable 'production technology' says something about the division of operations between capital and labour within departments or production groups.

   In this context, a distinction can be made between *rigid* technology – i.e. technology that is fixed by the mechanical structure of the machine itself – and *flexible* technology, which in the first instance refers to programmability. Flexible machines (e.g. robots, CNC-machine tools, flexible manufacturing systems) are functional for a large variety of purposes, problems and situations.

   Most studies assessing the impact of technological advancement limit themselves to the *execution* function or manufacturing cycle. Automation, of course, can also have an impact on preparation and support as well as on execution. In fact, some forms of flexible automation make it possible and some forms of modern ICTs possess the capacity to blur the traditional dividing lines between the operations to be performed. We call those *integrated* technologies.

3. *Work organisation.* A portion of all operations attributed to a department can be taken over by technical systems. Since automation is seldom complete, a number of residual tasks remain. Automation can also create new tasks. 'Work organisation' describes how residual and new tasks are grouped together into work places. With these work places correspond functions: overall packages of preparatory, executive, supportive and organising operations tasks.

   Concerning execution tasks, a company can roughly choose between very *narrow* functions – i.e. those in which the employee specialises in one single execution task or part of a task. *Broad* tasks on the other hand consist of multiple execution tasks. The characteristics 'narrow' and 'broad' indicate the 'width' of the functions. Also the 'composition' of a function can vary. *Segregated* functions consist exclusively of execution tasks, whereas *integrated* jobs also include preparatory and/or supportive tasks.

Decisions in the field of the production organisation, production technology and work organisation, yield into a specific *'production concept'*. This term covers the entire range of options related to the production process. The various dimensions can be assembled to form a multidimensional analytical framework to describe the traditional Fordist or Tayloristic production concept and to discover the dimensions of new production concepts.

2.1.3.2 Division of labour in the Fordist production concepts

It is clear that Taylorism – and its practical application in the Fordist production concept – involves systematic analysis of labour process and a far-reaching division of labour, in accordance with several principles (e.g. the divorce of planning and doing, of direct and indirect work, etc.) (Huys et al. 1999). Central to the traditional production concept is the idea that experts outside production ought to design the job and the methods and tools for carrying out tasks (Taylor 1972). These principles typically result in a staff-line organisation, in which preparatory and supportive staff divisions operate alongside traditional production departments (concentration and centralisation). The production departments group that we have called segregated and narrow production jobs, consists of highly specialised, short-cycle and repetitive tasks. These are organised in a flow or operation-oriented structure, in which rigid mechanisation is applied. The major characteristics

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Table 1: Traditional versus new production concept

Dimensions of the division of labour	Traditional production concept	New production concept
1. *Production organisation*		
Execution operations	Flow or operation-oriented	Product or process-oriented
Preparation and support	Concentration	Deconcentration
Organising operations	Centralisation	Decentralisation
2. *Production technique*		
Nature of technology	Rigid mechanisation	Flexible mechanisation
Integration of company functions	Execution	Integration
3. *Labour organisation*		
Width of the function	Narrow	Broad
Composition of the function	Segregated	Integrated

Source: Based on Huys et al. 1999, p. 74.

of the traditional production concept are summarised in Table 1.

The consequent application of the *traditional production concept* leads to a situation in which the *division of labour* can be *maximised*. As Table 1 indicates, the framework can also be used to describe the ideal antithesis of the traditional production concept (Huys et al. 1995). This antithesis is the *new production concept*, in which the most optimal *division of labour* is estimated to be much more *restricted*.

In the following section, we briefly summarise the Fordist employment relationship, corresponding to the traditional production concept. We again explain the antithesis in the form of a new employment relationship.

2.1.4 The Fordist employment relationship

The introduction of Taylorist forms of division of labour implied a loss of craftsmanship and autonomy. Employees saw their work split up into routine repetitive tasks. Workers were pinned down to one job. Horizontal mobility was kept to a minimum, and required qualifications were kept at a low level. Even training could be minimised. Actual production workers generally had a short period of on-the job training. Thus, very little attention was paid to what is called nowadays 'vocational education and training', let alone 'lifelong learning'. Labour was viewed as an article of consumption, not tied to the specific skills and characteristics of the employee, at the risk of seriously undermining employee involvement and commitment (Huys et al. 1995). Ford attempted to change the conditions of employment to encourage greater commitment on the part of the worker. His plants not only had to be 'a place to be', but also 'a place to stay' (Van Hootegem 1999). The permanent employment contract therefore became the symbol of the Fordist employment relationship. The introduction of higher wages and stable wage systems had an analogous function: increasing stability and cohe-

458

Table 2: Traditional versus new employment relationship

	Traditional employment relationship	New employment relationship
Contractual flexibility	Stability	Core-periphery
Temporal flexibility	Traditional (e.g. overtime)	New forms of temporal flexibility
Vertical mobility	High	Low
Horizontal mobility	Low	High (e.g. polyvalency)
Remuneration	Determined, based on hierarchy of functions	Flexible
Educational profile organisation	Low profile	Intensive and continuous learning
Recruitment	Low profile	Strong profile, focus on potential development

Source: Based on Huys et al. 1999, p. 74.

sion. Company-specific training ensured that employees in Tayloristic-Fordist companies were able to perform their fragmented functions adequately. The other characteristics of the Fordist employment relationship are listed in Table 2.

2.1.5 Summary

To assess the impact of globalisation, we turned the clock back and went to the area where companies were not yet confronted with current globalisation pressures. We looked at the gradual development of Fordism and focused on the inter- and intra-organisational division of labour. It became clear that Fordist companies simultaneously try to minimise inter-organisational dependency by means of vertical integration and maximise intra-organisational division of labour by means of the Tayloristic production concept. This also appears in the overview in Table 3.

The following paragraphs focus on the question mark in the last column. We will go through the different levels of analysis once again – thereby focusing on inter- and intra-organisational division of labour – and ask ourselves what is left of the Fordist principles in the global environment at the end of the 20th century. At first (2.2), we take a rather theoretical point of view and try answering the question on the basis of mainstream literature. In paragraph 2.3, we submit theoretically expected changes to an empirical test.

2.2 Globalisation and the end of Fordism: theory

2.2.1 The end of mass production and consumption

2.2.1.1 The undermining of the traditional Fordist assumptions

The *basic assumption of the traditional Fordist model* was the existence of more or less unlimited demand for highly standardised consumer goods. At the same time, due

Table 3: The traditional organisational logic and division of labour

Level of analysis	The traditional model	The impact of globalisation
1. Macro level	The Fordist compromise between mass production and consumption	?
2. Inter-organisational division of labour	Vertical integration	
3. Intra-organisational division of labour	Maximal division of labour Tayloristic production concept	
4. Personnel strategy (+ VET implications)	Fordist employment relationship Low level of required qualifications and little attention to VET	

to national monopolies or oligopolies, companies were not confronted with competitors from abroad. We can characterise the environmental situation as complacent, secure and simple (Schienstock et al. 1999). As it was possible to anticipate market trends for a longer period of time, the production process could be organised in a highly standardised, fragmented and formalised way. That is mass production. We have already explained its mutually enforcing relationship with mass consumption.

Nowadays, the basic assumptions of Fordism are seriously put into question. It is widely acknowledged that globalisation has contributed to *the undermining of traditional assumptions*. The following quotation illustrates this very well: 'In a globalising economy, where innovation competition dominates and customers no longer accept standardised mass products or services, but ask for individual solutions, markets become unstable, insecure and complex' (Schienstock et al. 1999, p. 59). The Fordist key words gradually disappeared from mainstream literature and had to make way for their post-Fordist counterparts: standardisation has been replaced by customisation, differentiation or individualisation; cost efficiency by innovativity and creativity; simplicity by complexity; stability by flexibility; etc. The global landscape can obviously no longer be characterised as a simple compromise between mass production and consumption. This can be related to the growing importance of service activities, which are inherently more difficult to create in mass in advance (although modern ICTs can create opportunities in that direction – see Chapter 1: increased tradability of services).

2.2.1.2 The growing importance of service activities and changing priorities within the company value chain[3]

Future society, it is often argued, will be a *service society* – if current society is not al-

[3] This paragraph is to a great extent based upon Schienstock et al. (1999, Section 6, pp. 50-53).

460

ready one. Structural changes in work are characterised by a growing share of services. Not only the service sector, but also so-called 'secondary services' are gaining importance (Parmentier et al. 1993). These do not service the immediate demand of end users, but they are defined as those services which improve the production through increased support and use of human capital. 'Secondary services' are generally characterised as 'knowledge-intensive business services'. They not only include indirect work processes but also management processes.

Quicker innovation, imposed by globalisation, means that a far greater proportion of the production process than before must be accounted for by a knowledge-intensive 'design process', and a smaller proportion by the 'material process'. To a certain extent, we can see similar trends in the service sector. We argued above that modern ICTs, in close interaction with globalisation, make it possible to disconnect the production and consumption of services. If services are tradable, their attraction for customers very much depends on their contents. Therefore, the design of such services becomes increasingly important. Moreover, when services are no longer immediately consumed, doing research to improve existing or developing new services becomes worthwhile.

The fact that an increasing amount of work is going into *design and research processes* is only one aspect of the changes in the structure of work caused by the globalisation process. As customisation becomes increasingly important, more work will also go into *marketing*. First of all, it is becoming important to know more about customers' needs to provide products or services that can be sold. Further, as customers no longer accept standardised solutions for their problems, but look for specialised solutions they are sometimes not even able to define clearly, it becomes necessary to develop new products or services in close cooperation with them. The globalisation process also places high demands on *management*. Planning is becoming more difficult under conditions of increasing uncertainty. The same is true for the organisation function, since the design of production and service processes is becoming a process of learning and continuous improvement.

2.2.1.3 Conclusions

From the argumentation above, it becomes clear that globalisation has contributed to the undermining of mass production and consumption. Globalisation, in close interaction with technological revolution, has given rise to a new competitive landscape, imposing new competitive criteria and priorities on companies (see 1.2). If the economic context and challenges have changed, so will the organisational answers. Companies are expected to restructure themselves to survive in global competition and meet new competitive criteria. Staudt (1994), calls this challenge to company management the 'management of non-routine processes' which, more than ever today, covers *organisational and personnel development* in addition to corporate and technological development (Dybowski 1998).

The discussion on personnel development is postponed to the next chapter. In the following, we focus on the organisational development and the 'new organisational logic' due to global competition. It is often argued that this new organisational logic is turning the traditional division of labour upside down (Schienstock et al. 1999). As in the previous paragraph, we let the division of labour *between* companies precede the division of labour *within* companies. We do so because we can only investigate the intra-organisational division of labour, once we know which operations are executed within the company and which are no longer. This is important since globalisation is expected to change traditional company boundaries.

***2.2.2 Towards vertical deintegration*[4]**

2.2.2.1 Downsizing and outsourcing: make it or buy it?

The strategy of vertical deintegration can be associated with *downsizing and outsourcing*.

[4] This paragraph is to a great extent based upon Schienstock et al. (1999, Section 7.2, pp. 57-64).

The main reason for big companies to reduce their size, is to become leaner to get the same entrepreneurial dynamism, innovativeness and informalism as small companies often have and to be able to react as quickly and flexibly as they do (Schienstock et al. 1999).

Nowadays, as companies reflect on their core activities and concentrate on these, an increasing number of functions is becoming subject to *'make or buy' decisions*. Globalisation has changed the nature and increased the importance of these decisions. The number of 'buy'-opportunities drastically increased in the global market. If units cannot compete with offers from all over the world, they are at risk of being outsourced. All functions and processes that do not belong to the core of the business can be subcontracted to other companies specialising in these activities. But not only peripheral functions are outsourced, sometimes even functions that can be considered as core business processes, such as design, become legally independent through outsourcing.

This logic of downsizing and outsourcing is expected to bring about smaller organisations with a more simple structure, which are supplied more frequently in smaller batches and therefore become more dependent on other companies. However, formal organisational relationships do not automatically turn into market relationships; instead, many outsourced parts are still linked very closely with and are economically controlled by the core company, based on long-term exchange agreements. In the end, a company might develop that subcontracts almost all activities and is only concerned with the management of all activities in the chain conducted by other companies. This can be called a 'hollow company', because it is not completely, but almost empty (Van Hootegem 1999). Electronic networks make such partnerships possible, since they reduce the costs of coordination and transaction.

2.2.2.2 Cost and profit centres

The establishment of *'cost and profit centres'* is another strategy to reduce vertical integration. In this strategy, more autonomy is given to the firm's divisions, while at the same time they become fully responsible for costs and profit. The tasks and responsibilities of headquarters, on the other hand, are reduced quite significantly. According to Hedlund and Rolander (1990), in so-called 'heterarchically' organised companies responsibility for product groups, functions and specific territories can be decentralised in such a way that many parts have a say in the company's decision-making process. Loose coupling and direct negotiation among subunits, particularly concerning transfer prices, is typical for a 'profit centre organisation'.

The restructuring of service functions within companies is also part of the organisational renewal process. Finance, purchasing, personnel, accounting, long-term planning controlling and logistics are integrated in service or advice centres, to deliver necessary services within the company and to external agencies, to take responsibility for corporate development, and to ensure the organisation's goals are attained. These centres are also responsible for costs, time and the quality of their services (Schienstock et al. 1999).

The strategy of vertical deintegration brings along drastic changes compared to the Fordist area. We could argue that on the hand, market mechanisms are brought into the company by means of cost and profit centres, 'make or buy'-decisions, etc. But at the same time, organisational mechanism seems to have entered the global market, e.g. in the form of the establishment of long-term relationships between companies, organisational networks, etc. The resulting changes in traditional company borders will have their implications on the splitting up of operations to be performed in one company. We now focus on changes within this intra-organisational division of labour.

2.2.3 The end of traditional division of labour and employment relationships

2.2.3.1 The emergence of new production concepts

The consequent application of the Tayloristic principles leads to a situation in which the

division of labour can be maximised. It has already been said that emergence of a new organising principle is being suggested in literature. A principle that entails not more, but *less division of labour*. It is in this climate that Kern and Schumann's (1984) *Das Ende der Arbeitsteilung?* has to be situated. These authors' observations in the chemical, automotive and machine tool industries led them to report developments which would threaten the dominant position of Taylorism and Fordism as production concepts. They observed the rise of new production concepts which they perceived to be the result of a rationalisation process that the companies in question were being forced to accept to keep their heads above water in the competitive international arena.

The crucial feature of Kern and Schumann's *new production concept* is a shift from concentrated planning and support towards deconcentration and decentralisation (see Table 1). This is expected to benefit a company's sensory capacity, the capacity for adequate action selection and innovative capacity (Sels and Van Hootegem 1998). Moreover, once preparatory and supportive operations are deconcentrated and integrated into production divisions, there would be more room for integrated production jobs not only consisting of direct production tasks. In a product-oriented structure, all operations and tools required for the production of a single product can be brought together. Since activities are then performed together that were traditionally spread all over the organisation, the structure can be called 'process-oriented', the focus no longer being on individual (parts of) tasks, but on the process of creating a complete product. In grouping together non-similar operations and tasks, this structure can pave the way for job enlargement (Huys et al. 1999).

Within the new production concept, importance should be given to the emergence of a new type of worker: the 'system regulator', who – instead of performing standardised tasks – is more engaged in *problem-solving processes*. Products are increasingly made by machines, but because of the limits to which processes can be controlled by technology, human working activity remains essential to secure process continuity and the effective use of capital-intensive production technology. System regulators can be called upon to confront unforeseen circumstances. They should be granted autonomy to select the action which they deem to be the most adequate based on their 'feeling' in the daily running of the process. Tessaring (1998) already made this point in the first Cedefop background report: 'The human element becomes increasingly important for the smooth running of technical plants' (p. 283).

This 'rehabilitation' of human labour requires an appropriate employment relationship. The characteristics of the so-called *new employment relationship*, corresponding to new production concepts, were enumerated in Table 2. In this relationship, vertical is being replaced by horizontal mobility, stability by flexibility, etc. Important in the context of this contribution is attention being paid to an 'intensive and continuous learning organisation' and focus on the 'potential development intensive and continuous learning activities'. Later on, we return in more detail to changes in the training of employees and VET systems. First, we want to elaborate on the relationship between globalisation and expected changes in the division of labour. In doing so, we bring together some of the arguments raised up to now.

2.2.3.2 Globalisation and changes in the traditional division of labour

Globalisation is considered as one of the main *reasons or causes* of the emergence of new production concepts, and by consequence, a reduction in the division of labour. We already cited Kern and Schumann, and their belief new production concepts are necessary to keep heads above water in the competitive international arena. According to this view, increased international competition and globalisation are held responsible for the new organisation logic. The literature survey of Schienstock et al. (1999) also revealed that a lot of authors point to global competition as an important factor causing organisational transformation. 'Production and service processes are altering in response to global com-

Table 4: The traditional division of labour and the expected impact of globalisation

Level of analysis	The traditional model	The impact of globalisation?
1. Macro level	Standardisation: mass production and consumption	Differentiation, customisation individualisation
	Stability and simplicity	Flexibility and complexity
2. Inter-organisational division of labour	Vertical integration downsizing and outsourcing	Vertical de-integration:
	'The bigger, the better'	'Small is beautiful'
3. Intra-organisational division of labour	Maximal division of labour	Minimal division of labour
	Tayloristic production concept	New production concept
4. Personnel strategy	Fordist employment relationship	New employment relationship
(+ VET implications)	Low level of required qualifications and little attention to VET	High level of qualifications and major challenges for VET

petition' (Lammont 1999, p. 5), or as it was stated in the first Cedefop background report: 'What is characteristic of these changes [...] is the efforts of the companies to encounter the demands and problems arising from changing global markets, fierce international competition and the need for more innovations' (Dybowski 1998, p. 117).

Obviously, the Fordist production model is thought no longer to be suitable to meet the 'demands and problems arising from the changing global markets'. The traditional model is linked to a specific form of information flow: it contains channels in which only a vertical flow of information is possible and through which the action of hierarchically arranged units is controlled. Actually, this model includes built-in mechanisms to block information flows. Due to its bureaucratic structure and far-reaching division of labour, the model produces too many interfaces, which become a hindrance to communication and information exchange (Van Hootegem 1999). Globalisation therefore exerts a need for restructuring the division of labour, which facilitates *information exchange and learning processes* instead of blocking them.

It is widely acknowledged that *ICTs* will play an important role in organisation restructuring. We have already pointed to the mutually reinforcing relationship between technological development and globalisation (see above: Section 1.3). However, the exact role of ICTs in organisation restructuring is highly controversial. In a research area mainly concerned with new technologies, there is always a danger of falling into technological determinism. Others, such as Schienstock et al. (1999), explicitly avoid such determinism: 'ICTs will have an important role to play in

the development of new organisation forms, but they are not seen as a determining factor. They open up «occasions» for organising production processes, but as to technology applications and organisation forms, both are open to other drivers of change [...]' (p. 59).

In conclusion, the central argument is that the basic criteria in achieving global competitiveness – innovativity, flexibility, customer orientation – can only be achieved through organisation restructuring and changes in the policy of labour deployment. Labour can no longer be considered as a risk factor, something to be kept in line by means of a maximum division of labour. On the contrary, *division of labour should to be reduced to survive in global competition*. This also appears from the following table, giving an overview of the expected impact of globalisation on the traditional Fordist logic.

In the next paragraph, we question whether the new organisation logic is really spreading itself at the pace suggested in literature. We do so because 'in literature, there is much rhetoric on the need for strategic change [...], but there are still a lot of questions to be answered concerning the rate of diffusion of these transformations' (Sels and Van Hootegem 1998, p. 542).

2.3 Globalisation and the end of the Fordism: rhetoric versus reality?

2.3.1 Empirical research on new production concepts

In view of the all the assertions above, it is very surprising that *empirical research* on organisational restructuring sometimes tells a different story. Several sector-wide studies (chemical, automobile, machine tool and clothing industry) have investigated the transformation from a traditional Tayloristic division of labour to a new sociotechnical division of labour (Huys et al. 1995). Although in some respects changes in the organisational structure do take place, the effects on the work content of production workers remain limited, with a continuing domination of merely implementational and small jobs. 'The changes taking place have in common the fact that they do not change the fundamental nature of the Fordist-Taylorist production system' (Huys et al. 1999, p. 86).

Van Hootegem (1999), further extended the empirical basis of this so-called Belgian *Trend-study* – aimed at answering the question whether the Tayloristic division of labour is a thing of the past or not – on the basis of 20 longitudinal in-depth case studies on changing patterns in the division of labour. He concludes that contemporary organisations do work on their division of labour, but one can rarely speak of a drastic or fundamental organisational renewal or restructuring: 'In general, the Tayloristic body of thought is still predominant' (Van Hootegem 1999).

Not only in Belgium, have widespread surveys on organisational restructuring been organised. The German SOFI team executed a similar *Trendreport* in the automotive, machine tool and chemical industry in Germany in the beginning of the 1990s. Schumann et al. (1994) came to the following conclusion: 'These new types of organisation are spreading in manufacturing sectors, too, and are gaining ground against the «old fashioned» ones. Nevertheless, due to missed opportunities in the 1980s the dynamic development in the past decade can be characterised more as «pilgrim steps»: two forward, one back, than as purposeful modernisation. These deficiencies are becoming very visible in the current structural crisis' (p. 648).

We finally refer to two research results on transforming work systems in the United States (Appelbaum and Batt 1994). A large-scale survey, in which 476 of the largest 1000 firms participated, reported that only one quarter had made significant changes in the organisation and management of work and in human resource practices that support the developments suggested in literature. But even in these firms, the changes usually affected no more than 20% of employees. 'This has led some observers to conclude that between 5 and 10% of the work force in large firms is affected by major organisational changes' (Appelbaum and Batt 1994). Based on research of the American Society for Train-

ing and Development, Carnevale (1992, p. 53) estimates that 'only 13 percent of American employers have organised employees in high performance work systems that deemphasise hierarchy and emphasise collaboration and teamwork. Those systems encompass a meagre 2 percent of US workers'.

2.3.2 In search of explanations

The above research findings do not say that nothing is changing at all. But the least we can say is that the empirically assessed changes do not allow (yet?) for a general breakthrough of new production concepts. In the first Cedefop report, Dybowksi (1998) also stipulated that 'There is no analytically or empirically substantiated basis on which to answer the question of the extent to which new production or organisational concepts have been implemented and disseminated [...]' (p. 148). This discrepancy between expectations surrounding the new production concept in literature and the empirical observations of the same, ask for an explanation. In general, there are two possibilities (Fruytier 1994):

A *first possibility* is that the *starting point is wrong*: changes which are assumed to be taking place in the market and which were supposed to impede the continuation of the Taylorist production concept have not materialised or are only present to a limited extent (Huys et al. 1999). Mainstream literature puts globalisation in front as a driving force behind organisational restructuring. Without denying its prevalence, we have already critically questioned the pace of evolution of globalisation pressure as it is suggested in literature (see Chapter 1, Section 1.5). Almost without exception, new performance criteria – such as innovativeness, creativity, customisation, extreme quality-orientation, flexibility, etc. – are given a determining role in the necessity of organisational change. On the basis of empirical research, Van Hootegem (1999) concludes that these are only tendencies, very rarely taking place together. Thus, the assessment of changing performance criteria in the global market can at least bear some nuance. However, one cannot deny organisations being confronted with new challenges.

This brings us to a *second possible explanation* of the discrepancy between theory and practice.

The *starting point is right*, but there are *alternative possibilities*, compatible with Tayloristic and Fordist methods, to meet the demands of changing market circumstances (Fruytier 1994). The authors of the Belgian *Trend-study* support this idea and argue that traditional organisation principles are much more adaptable to current developments than expected. 'According to our data, it is beginning to look more and more as though improvements in flexibility and quality of production can in fact be achieved without departing from the structuring principles of traditional concepts' (Huys et al. 1999, p. 87).

Modern ICTs play an important role in this process of adaptation: 'Anyone visiting a car assembly will notice that the amazing production flexibility is achieved not by some system of autonomous teams, but rather through the more intensive control of the overall production flow made possible by information technology, in which all parts have to switch simultaneously like cogs in a cogwheel. [...] This kind of flexibility in no way requires a return to 'craft production' in which plants are increasingly engaged in the manufacture of specialised goods tailored to the needs of particular consumers and produced by broadly skilled workers using capital equipment that can make various models' (Huys et al. 1999, p. 87). The authors therefore conclude that *the quantitative importance of the new types of (division of) labour is still small and bears no relationship to the attention it receives in literature*.

Van Hootegem (1999) takes a more or less similar perspective and further elaborates on the specific format of the 'alternative possibilities compatible with the Tayloristic production concept'. His empirical research makes him conclude that we cannot speak of a far-reaching 'detaylorisation'. Companies tend to stick to traditional structures of execution, being flow or operation, rather than process oriented. But simultaneously, companies try to integrate some ingredients of the new production concept (e.g. de-concentration of maintenance

460

tasks, limitation of the number of hierarchical levels, etc.). In fact, some of the disfunctions of Taylorism are tackled and refined, leading to an optimalisation of the classic model. These tendencies, however, do not alter the width and composition of functions drastically. They do not imply a clean break with the past and therefore, the author prefers the prefix 'neo'- rather than 'post'-Taylorism/Fordism (Van Hootegem 1999).

2.3.3 Empirical research on outsourcing

Furthermore, Van Hootegem (1999) submitted literature on downsizing and outsourcing (see above: Section 2.2.2) to an empirical test. Several critical remarks can be addressed to so-called 'small is beautiful' literature.

Once again, the fastness of organisational change suggested in literature contrasts heavily with the *slowness of empiricism*. Of course, there is no use in denying some activities are more frequently handed over to other companies than previously (e.g. cleaning), and some companies subcontract large parts of their production process (e.g. complete subassembly divisions). In general, however, the process of outsourcing is taking off rather slowly and few organisations feel influenced by a heavy 'centrifugal force', making them focus on their core activities alone whilst outsourcing the rest.

Empirical research shows that companies do not decide themselves without taking on board universally supposed environmental influences. Empirical data make us favour the '*organisational choice* approach', in which a degree of freedom is given to cope with (changing) challenges in the company environment. How else can we explain that some organisations outsource certain activities, while others, operating in exactly the same environment, keep the same activities in house (Van Hootegem 1999)?

Thirdly, companies not only engage in outsourcing, but also in 'insourcing' activities. An increasing amount of activities even become subject to *two-way traffic*. Organisations can perfectly outsource some activities, while simultaneously attracting new ones. In other words, outsourcing does not necessarily lead to scaling down or to 'small and beautiful' companies.

This is also the conclusion when looking at what happens with activities being outsourced – a not so common perspective in literature. Companies taking over activities of others obviously increase, rather than decrease, their scale. Very often, outsourced activities of different, sometimes competing, companies become integrated in one company. This is, for example, the case in the automotive industry. This tendency contrasts with the frequently mentioned process of 'SME-isation' in literature. It leads to *scaling up* or *increasing scale* rather than scaling down or decreasing scale, on the component level. We sometimes observe reintegration of formerly outsourced divisions. In addition, companies try to get financial control of outsourced units and then act as 'shareholders' with a somewhat different philosophy.

2.4 Summary and conclusion

In this second chapter, we looked in detail at organisational restructuring and changing patterns within the division of labour. Before we could assess the impact of globalisation on the division of labour, we took a step back in the first paragraph and looked at the *traditional Fordist organisation logic and the associated far-reaching Tayloristic division of labour*. The remainder of this chapter was devoted to a critical examination of the impact of globalisation on the traditional organisational logic. We asked ourselves whether globalisation really seals the fate of Fordist compromise and pushes organisations more in the direction of new production concepts with less division of labour, and a corresponding new employment relationship.

In the second paragraph, we tried answering this question based upon arguments found in literature. On the basis of *mainstream literature*, we had to answer the questions positively: globalisation has drastically changed the competitive landscape; it has imposed new performance criteria on companies and to meet the new challenges, companies are restructuring themselves; they want to get rid of Fordist and Tayloristic principles and pre-

461

fer drastic reduction of the division of labour to make optimal advantage of human capital. It soon became obvious that very few tendencies proclaimed in literature are based on true empirical evidence. Rather, they are based on extrapolation of trends emerging in specific company settings or niche markets.

Therefore, we took a closer look at the *empirical data* in hand in the third paragraph. These data tell us a somewhat different story than the one suggested by literature. They suggest a transition to 'neo'- rather than 'post'-Taylorism or Fordism. The ground principles of Fordism and Taylorism survive, be it adapted to meet current challenges of, for example, globalisation.

Of course, the empirical research findings we have presented are strongly *limited*. The greatest disadvantage is that they are almost exclusively production and industry oriented, whereas 'the future society is expected to be a service society' (Parmentier 1993). However, there are good reasons to expect organisational changes in the first instance in industrial sectors. After all, these sectors were the first being confronted heavily with competition from newly industrialising countries and with globalisation pressures. The saturation of classical mass consumption was primarily felt on the product markets. In other words, the crisis of the Fordist compromise mainly affected industrial organisations (Van Hootegem 1999).

A second limitation of the presented research results is the very limited set of industrial sectors (e.g. automotive industry, chemical industry, etc.). Because of the limitations of the empirical research available, we have to be extremely careful in extrapolating its results (and thereby falling into the same trap as a considerable portion of literature).

On the basis of the data, we cannot conclude that traditional organisation principles remain dominant anywhere and anytime. But, taking Popper's falsification theory into account – examples have no probative value but counter-examples do –, we can at least conclude that empirical data *reject the idea of a general paradigm shift* towards a new organisational logic, new production concepts and a new division of labour.

The data also reject the idea of *environmental determinism*, in which changes in the company environment (e.g. related to globalisation) force organisations to react in a specific direction (e.g. restructuring towards less division of labour). While going through literature, we found a lot of implicit or explicit adherents of this theory. We believe more in a degree of *organisational choice*, in which organisations are seen as non-determined social systems and in which the same challenge can give rise to different answers or equivalent solution strategies (Van Hootegem 1999). According to this view, the environment only forces companies to make a selection from a whole range of possible reactions. Not reacting is one possibility, as is e.g. working on the inter- or intra-organisational division of labour. Thus, we see the transition to new production concepts and a significant reduction in the division of labour as on option, rather than an inevitable process to react to globalisation pressures.

Table 5 summarises the argumentation raised in this chapter. In the next chapter, we elaborate further on the question of the impact of globalisation on employee skill needs, company training needs and VET systems.

3. Globalisation and challenges to employee skills and company training needs

The content of jobs – and their inherent qualification and training needs – is influenced by the kind of division of labour implemented in the organisation. Up to now, we pointed at potential changes in the division of labour and content of jobs due to increased globalisation. Think of the integration of previously separated operations in one job, the transformation of work as a problem-solving process, the increased importance of information work, etc. These tendencies – although we have critically questioned the pace of their evolution and emasculated their unavoidability – can seriously influence required skills, the need

468

Table 5: The impact of globalisation on the traditional organisation model

Level of analysis	The traditional model	The impact of globalisation? Mainstream literature	Empirical research ...
1. Macro level	Standardisation: mass production and consumption	Differentiation, customisation individualisation	... nuances the assessment of changing performance criteria in the global market
	Stability and simplicity	Flexibility and complexity	
2. Inter-organisational division of labour	Vertical integration	Vertical deintegration: downsizing and outsourcing	... indicates slowness of outsourcing process ... allows for scaling-up as an alternative to scaling down
	'The bigger, the better'	'Small is beautiful'	'Organisational choice'
3. Intra-organisational division of labour	Tayloristic production concept	New production concept	... supports the idea of 'neo' rather than 'post' Taylorism
	Maximal division of labour	Minimal division of labour	'Organisational choice'
4. Personnel strategy (+ VET implications)	Fordist employment relationship	New employment relationship	... supports the idea of 'neo'- rather than 'post'-Fordism
	Low level of required qualifications and little attention to VET	High level of required qualifications and major challenges for VET	?

for learning and company training needs. This becomes clear from the following citations:

'Continuous learning has become an essential prerequisite for achieving global competitiveness' (Hitt et al. 1998, p. 22). Zahra and O'Neill (1998) highlight organisational learning as an important means for organisational transformation and successful adaptation in a global context. Inkpen (1998) stresses the importance of knowledge as the source of sustainable advantage in global markets. Also Roberts et al. (1998) view knowledge as the cornerstone of competitive superiority in global markets. According to the authors, 'the major challenges to managing a global workforce are:

- skill deployment: getting the right skills to where they are needed in the organisation regardless of geographical location;
- knowledge and innovation dissemination: spreading knowledge and practices throughout the organisation, regardless of where they originate;
- identifying and developing talent on a global basis: identifying who has the ability

to function effectively in a global organisation and developing those abilities' (Roberts et al. 1998, p. 94).

The citations and quotations above all support the idea of a general *'rehabilitation of human capital' and upskilling of the workforce in the global context.* Since globalisation is considered to be a major reason behind organisational restructuring and changing nature of work, it is thought to impose major changes on required skills and training needs. In this way, globalisation is expected to create a lot of challenges for vocational and educational training in general.

Several of these arguments have already been put forward in other Cedefop contributions. For example, Tessaring (1998, p. 271-317) elaborated on the future of skills and competencies in general, and made an explicit link with the changing nature of work. Dybowski (1998, p. 115-156) investigated the impact of new technologies and work organisation on VET. The impact of ICTs – closely linked to the process of globalisation – on VET has already been studied by Straka and Stöckl (1998, p. 183-214).

We see no use in repeating the arguments made in these contributions. We would rather try to position the separate discussions in the framework of our contribution and focus on critical extensions of what has already been said repeatedly in literature. In this chapter, we want to go further than the idea of 'a general trend towards higher qualifications and more training to survive in global competition'. Instead, we want to specify *which* new qualifications are seen as becoming indispensable in the global economy and *how* they can be achieved. But first, we have to specify what we mean by 'human capital' to be able to assess the impact of globalisation.

3.1 What do we mean by 'human capital'?

No generally accepted definition of human capital and skills exists. In the OECD report (1998) on *'Human Capital Investment'* the following meaning of human capital is adopted: it comprises 'the knowledge, skills, competencies and other attributes, embodied in individuals which are relevant to economic activities' (p. 9). This definition indicates that human capital is a *multidimensional concept*. In line with Schienstock et al. (1999), we will mainly follow the definition of human capital proposed by the OECD, differentiating between knowledge and skills or competencies. But instead of talking about 'other attributes', we will speak about work orientations.

Although *knowledge* is a contested concept, some important categories of knowledge have been established. In this respect, we can differentiate between theoretical or abstract knowledge, content knowledge, technical knowledge and practical knowledge. Within the second aspect of qualification, the *skill aspect*, we differentiate between professional, managerial, social and international skills. The concept of skills, however, is gradually shifting towards the broader concept of *competence*, which stresses particularly the ability to handle complex and unclear situations. In the *orientation aspect*, quality consciousness and reliability on the one hand, and creativity, innovativeness and entrepreneurial spirit on the other hand, are seen as important qualifications, which have to be cultivated to really gain the advantage of new organisation forms (Schienstock et al. 1999, p. 75).

3.2 The need for human capital in the global economy[5]

3.2.1 Knowledge

Due to the increased importance of problem-solving activities, workers can be confronted with new and unfamiliar tasks for which no solutions are as yet available. We repeat that in literature, globalisation and the resulting needs to innovate more rapidly and to take customer preferences into account more carefully, are seen as driving forces behind the transformation of work into a process of problem-solving. Another reason is the increasing amount of activities becoming automated,

[5] This paragraph follows the structure of Schienstock et al. (1999, §10, pp. 72-84).

470

with the paradoxical consequence of the greater dependency on human intervention if technology refuses to work (Huys et al. 1995). In such situations, workers can draw only to a limited extent on their content knowledge of the job. Instead, they need more *theoretical or abstract knowledge* (Schienstock et al. 1999): 'To find solutions to new problems, workers should have the ability to ask the right questions, find the information needed, and select the most suitable aids and tools. They must be able to conceptualise new problems in such a way that they can search for solutions by proceeding in the appropriate systemic and methodological way' (p. 76).

It should be noted that the advanced use of modern ICTs can erode the importance of abstract-theoretical qualifications, because ICTs allow for a worldwide exchange of solutions. It is a quite common company strategy to input solutions to all kinds of potential problems in a standardised database, accessible from all over the world. By continuously updating and extending the database with newly emerging problems and their corresponding solutions, a lot of so-called problem-solving work is limited to looking up the most suitable action in the database. In this sense, ICTs and globalisation allow for a continuing codification of formerly uncodified knowledge. However, extensive use of modern ICTs will demand a new kind of knowledge from employees.

The advanced use of modern ICTs in the global economy is fundamentally influencing the demand for new qualifications. Modern ICTs make the exchange of information and knowledge between different actors much easier, as they bridge both time and space (Fulk and DeSantis 1995). It is expected that, due to easy access to technological databases, vastly expanded connectivity and a sharp rise in communication bandwidth, modern ICTs will speed up innovation processes within and/or between firms significantly. Those advantages, however, can only be realised if all employees know how to use modern ICTs in a creative way. *Technical knowledge*, therefore, is becoming a key qualification. One can also speak about *digital knowledge* (Schienstock et al. 1999) or *production intelligence*.

For a more detailed investigation of the changing competence needs due to the increasing informatisation of work, we refer to the contribution of Brodahl in this background report. We want to add that, together with some other critiques, we dare questioning the popular view that 'almost every job involves regular contact with modern ICTs'. Many companies, particularly small ones, still operate with little technology and if ICTs are used in a company, the share of the total workforce actually doing so can vary considerably. In many jobs, it seems that the actual level of IT skills needed is still fairly low (Dench et al. 1998). These things are undoubtedly changing very fast, but it is not (yet) clear to what extent.

Concerning the knowledge aspect, we want to identify a third trend emerging in literature. To be able to handle complex technical systems, not only abstract and technical, but also *practical knowledge* is expected to grow in importance. We already referred to the increased importance of problem-solving activities, and the role of modern ICTs in exchanging solutions on a global basis. It is obvious that ICTs can reduce the quantitative importance of doing real problem-solving work. But company dependence on problem-solving qualifications for (exceptional) problems, for which no solutions are (yet) available, might even increase. In such situations, uncertainties cannot be solved on the strength of theoretical knowledge and a systematic way of thinking alone; a kind of knowledge is needed which enables people to react immediately to new and uncertain situations.

Practical knowledge can be characterised in different ways: 'Someone has a right feeling for a material, an ability to detect pitch changes in the sound of technical systems or the ability to make decisions without reflection, to use their intuition and improvise. Practical knowledge can be seen as the particular contribution of human labour to the production process' (Schienstock et al. 1999, p. 78). To make this contribution, one should obviously understand the overall production and work process. We can call that *work process knowledge*. An understanding of the work process is much broader than an understand-

ing of the worker's individual task (Lammont 1999). Acquiring work process knowledge would mean 'breaking out of the narrow experience of the worker's own task and appreciating that there is a variety of alternative work processes, that work processes are rooted in historical processes and that the current work process in the organisation is not fixed and may change' (Kruse 1996).

3.2.2 Skills and competencies

The process of organising a business globally calls for a range of new skills, which can be classified as *international skills* (Dertouzos et al. 1989). Today, an increasing amount of companies more frequently deal with foreign clients, suppliers, subsidiaries, 'sister companies', etc. In these international relationships, it is not only crucial to have the ability to speak foreign languages and, more in general, to have the necessary *communicative skills*. Cooperation is much easier if one also knows about the culture, tastes, customs, institutions, etc. of the partner's country. In literature (see e.g. Roberts et al. 1998), a lot of alternatives are suggested to acquire international skills (e.g. aspatial careers in different countries), sometimes including the use of modern ICTs (e.g. virtual teamwork with international partners).

Apart from the questions how many companies are truly global and how many employees within these companies really need international skills and get involved in programmes aimed at stimulating them, globalisation obviously has a direct influence on the need for international skills. We now look at skills and competencies, only indirectly influenced by the process of globalisation.

When it comes to *professional skills*, globalisation is expected to speed up the need for multiskilling, defined as the possession of skills that exceed the boundaries of one specific profession (Schienstock et al. 1999). This expectation is based upon the assumption that globalisation forces companies to restructure themselves in the direction of less division of labour, deconcentration of preparatory and supportive operations and decentralisation of decision-making (see Chapter 2). The result is broad and integrated functions, asking for a wide spectrum of skills in the sense of *multiskilling*.

If an organisation engages in far-reaching decentralisation of decision-making – in Chapter 2, we critically questioned the pace of this evolution –, workers should be able to plan, organise and also control their work autonomously or together with colleagues in a team. All these tasks – planning, organising, negotiating, control, etc. – are seen as typical management functions, which means that new forms of organisation can only function well if the workers acquire the necessary *managerial competencies*. To this, we could add the need for being able to manage information flows.

Due to deconcentration and decentralisation tendencies, workers would also have more direct contact with members of other work groups. *Social skills and competencies* would therefore become extremely important. These are often related to the ability to take part in teamwork processes in such a way that all participants are satisfied and that the outcome of the group work will be seen as a collective achievement. Another reason why social competencies can become important is that, together with higher levels of autonomy, workers would more often speak directly to suppliers and customers (Schienstock et al. 1999).

3.2.3 Work orientations

Since price, quality and time can be seen as entrance barriers to the global market (see above; Section 1.2), orientations such as *quality consciousness, precision, accuracy, etc.* have not lost their importance. Another factor is *immediacy*. Modern ICTs, such as e-mail, mean that documents arrive almost immediately, and people expect immediate replies. This not only creates new pressures on workers but also diminishes the time available to consult with colleagues or supervisors about the right way to respond; the knowledge must be immediately at hand.

In line with the in international business device widely known as 'innovate or die' (Hitt

Table 6: Qualifications needed in the global economy

Qualifications	Underlying cause
Knowledge	
Theoretical knowledge	Work as a process of problem-solving
Technical (digital) knowledge	Introduction of modern ICTs
Practical, work process knowledge	Increased uncertainty, risk situations caused by technical integration
Skills and competencies	
Professional skills, multiskilling	Integration of tasks, despecialisation, group work
International skills	Globalisation of markets and production
Social skills	Direct interaction within and between work groups, customisation, direct interaction with suppliers
Management skills	Flat hierarchies, decentralisation, increased information exchange
Work orientations	
Quality consciousness, reliability	Quality and time as key aspects of global competition
Creativity, entrepreneurship	Innovativeness as key element of global competition
Leadership	Coordination of autonomous work groups
New work virtues	Commitment, trust, industrial citizenship

Source: Schienstock et al. 1999, p. 83.

et al. 1998, p. 36), *creativity and entrepreneurial spirit* are considered to become crucially important virtues. The transformation of such abstract concepts as 'continuous improvement' or a 'constantly learning organisation' into a reality inside a company very much depends on a creative workforce. Sometimes it is argued that a *'new way of thinking'* for all members of the company is needed to develop an innovative and constantly learning organisation. *Commitment and trust* are seen as important aspects of such a new way of thinking. It must be based on an understanding that only a joint effort of management and workers to improve innovativeness can lead to success in global competition.

3.2.4 Globalisation and upskilling: some training aspects

Table 6 summarises the arguments elaborated so far, concerning future qualification needs in the global economy. The table obviously supports the *upskilling thesis*, the idea of a general tendency towards higher qualification needs. If human capital becomes increasingly important in the global economy, so will the necessity to invest in it. The main argumentation says that, «without investing in human capital, companies will neither be able to manage the fundamental restructuring of their production processes and business organisation necessary for them to stay competitive in global markets, nor will they be capable of deriving the maximum benefit from the new organisation forms that have been established».

The question is now how acquisition of the qualifications listed in Table 6 can be stimulated. Certain qualifications, such as theoretical or abstract knowledge, technical knowledge or international skills can, at least partly, be taught in specific educational settings. It is, however, obvious that a great number of other qualifications cannot be acquired in an

education process separated from the production process. Instead, they have to be developed continuously in *learning processes taking place within day-to-day business*. Some examples of qualifications that workers would acquire mainly while going about their day-to-day business and cooperating with other people are social skills, practical and work process knowledge, etc.

Practical knowledge and work process knowledge can be considered as examples of 'tacit knowledge' as they cannot easily be codified. Instead, they should be accumulated by processes of *'learning by doing'* or *'learning by using'* (Schienstock et al. 1999, p. 78). Within this context, Tessaring (1998) stresses the importance of *'training for experience-led working'*. He links the growing importance for human work with concrete business processes becoming more unpredictable. The required qualifications to prevent and manage those unpredictabilities come from experience-led working. According to Tessaring (1998), 'new forms of training, including «experience making» thus gain in importance in vocational training and further training, but also require new learning arrangements' (p. 283-284).

In general, we found a lot of arguments in literature for the reorientation of VET *from teaching to learning* and the integration of *working and learning*. 'The traditional path followed in vocational education in Europe of defining vocational training and working on the job as two distinct areas with only external contacts and a separate organisation of learning and working, is leading to a dead end. Growing competitivity requirements in the form of cost economies, higher quality and shorter timing, are at present compelling companies to undertake permanent learning, adaptation and innovation processes in order to remain on the market' (Dybowski 1998, p. 144-145).

This quotation from the first Cedefop background report also reestablishes the link between the need for learning on the one hand and globalisation and the resulting market pressures on the other. The global economy and global competition are considered to be major reasons for *lifelong learning* becoming increasingly important around the world (Lammont 1999).

3.3 Once again: rhetoric versus reality?

At first sight, globalisation is expected to result in an extremely high-skilled workforce, in which everybody should simultaneously possess the knowledge, skills and work orientations enumerated in Table 6 and in which everybody has the ability and willingness to learn continuously for the rest of his/her life. It is hard to believe this is a representative picture of today's average workforce. Obviously, a lot of things have to be put into perspective. Some nuance was already given in the enumeration of the requirements: ICTs can reduce the demand for problem-solving qualifications, it is an illusion that 'every job involves a lot of information work', few companies are yet truly global, not all employees within global companies need international skills, etc. We now draw attention to some other opinions deviating from the upskilling thesis.

3.3.1 Globalisation and deskilling

Doug Henwood, for example, heavily criticises the upskilling thesis and upgrading of workers in the global economy of the US. He investigated the widespread idea that 'the most rapidly growing job categories in the global economy are knowledge-intensive – so-called «symbolic analysts» – and that the problem is that many people don't have the right skills' (Henwood 1998, p. 17). He did so on the basis of projections of the Bureau of Labour Studies of the fastest growing occupations between 1996 and 2006: 'Of the top 30, those that look like symbolic analysts account for only 9% of employment now and 16% of projected growth. Most look quite mundane. It's hard to see from this how «the problem is that many people don't have the right skills». It is, however, easy to see the polarising tendencies in today's labour market [...]'(Henwood 1998, p. 18).

Livingstone (1998) engaged in a more detailed discussion of employees 'having the right skills' or not. The author concludes that around 20% of the (American and Canadian) labour force is underemployed, in the sense that they accept jobs with lower diploma and

qualification requirements than the ones they actually dispose of. We see the same tendencies in Europe. In Belgium and the Netherlands for example, in about one third of all vacancies, a person is recruited having a higher diploma than the one actually asked for (Pollet et al. 1999). Beyond that, organisations are likely to ask higher diploma and qualification requirements than what is actually needed to do the job in hand. These tendencies give rise to the emergence of what Livingstone calls a 'performance gap', i.e. a situation in which the employee is overqualified to perform his/her tasks. In view of the upskilling thesis (see above), it is striking to see that the phenomenon of overqualification has significantly increased in recent years (Livingstone, 1998).

Schienstock et al. (1999) also warn us no to conflate the increasing transmission of data between remote people with the acquisition of knowledge and a general upskilling movement. A number of recent studies on call centres in particular cast serious doubt on the argument that there is a general trend towards knowledge-intensive work. On the contrary, they suggest that these new forms of work, enhanced by the process of globalisation, exhibit an extreme case of repetitive, tightly controlled, machine-paced, and less knowledge-intensive Taylorised work (Fernie and Metcalfe 1987; Reardon 1996). O'Siochru and Jordan (1999) even talk about 'the new sweatshops of the millennium'. That is also the tenor of the following quotation: 'The use of computer-generated scripts which pop up on the screen to be read verbatim by the operator can reduce the skill requirements to a minimum. This sort of work is also amenable to a high degree of remote monitoring and control. Studies of call centre workers in the UK have found that the work is highly controlled, relatively low-paid, frequently involves round-the-clock shift-working and produces a very rapid rate of staff turnover, with «burn-out» typically occurring after 12 to 20 months on the job. The evidence suggests that, far from constituting some new kind of knowledge workers, formerly unknown to economics, these are the Taylorised, deskilled descendants of earlier forms of office worker, even though the work may be taking place at different locations and under different conditions of employment' (Huws 1999, p. 39-40).

The examples above mainly refer to skills associated with the use of ICTs in a global context. Schienstock et al. (1999) also suggests looking at the concept of innovation more critically. Very often diversification and innovation are based on the standardisation of parts of the whole product. Despite the widely supported tendency of higher qualification or reskilling in literature, it is important to see that globalisation does not always require higher qualifications from the entire workforce. In fact, globalisation can sometimes result in new kinds of work reducing the skill requirements to a minimum. To put it in other words, 'routine work will survive' (Schienstock et al. 1999, p. 49).

3.3.2 Upskilling versus deskilling: organisational choice

From the examples given by the upskilling and deskilling adherents, it has become clear that globalisation *can*, but does not necessarily *have* to yield into more knowledge, higher skill requirements and renewed work orientations. How can we reconcile this with the enumeration of new qualifications in Table 6? Some of these qualifications were a direct consequence of the process of globalisation (e.g. the need for international skills, a creative and entrepreneurial mindset aimed at achieving innovativeness). Others were only indirectly influenced through the underlying assumptions of the concurrence of globalisation with the use of modern ICTs (e.g. digital knowledge), other technologies (e.g. practical knowledge), organisational restructuring (e.g. multiskilling), decentralisation of decision-making (e.g. managerial skills), etc. These assumptions, obviously, constitute the weak element of the argument. If the assumptions do not hold, neither will the consequences drawn from them.

In general, we can say that the elaboration of a lot of newly required skills is based upon the premise of globalisation resulting in less division of labour and a new organisation logic. In the first chapter of this contribution, we critically examined the concept of globali-

sation itself. In the second chapter, it has become clear that the new logic is far from widespread and should be considered as one option out of a whole range of possibilities. If the organisation logic is subject to *organisational choice*, so are the qualification requirements needed to occupy the functions resulting from the choice. We therefore prefer talking about upskilling as a possibility, rather than a general rule. Much will depend upon the organisational choices in the field of the division of labour. Since these choices will determine the learning opportunities for workers, they will also have important consequences on the possibilities for on-the-job learning (Lammont 1999).

We will now briefly point to some challenges VET faces due to the process of globalisation. Out of necessity, we limit ourselves to some general trends. After all, the specific training needs of individual companies will be influenced to a great extent by organisational choices regarding the division of labour and the use of human capital. Of course, the causality can also be turned around, in the sense that VET programmes can (should) anticipate and facilitate the process of organisational restructuring and thus might influence the process of globalisation.

3.4 Globalisation and challenges to VET

- Schienstock et al. (1999) argue that 'there is no general trend towards knowledge-based work. Instead, we can expect some kind of *polarisation* with increasingly knowledge-based jobs on the one hand and more repetitive and less information and knowledge-intensive work on the other' (p. 50). We already quoted Henwood (1998) and his reference to the 'polarising tendencies in the labour market' (see above). Henwood fears that globalisation might even speed up the process of polarisation. In our opinion, this contains a major challenge for vocational and educational training systems. VET should try to avoid the exclusion of those falling out of the upper segment of highly qualified personnel.

- Due to globalisation, local labour markets can suffer from large 'shocks'. Think of the situation in which a large company decides to move or close down one of its plants. As lifelong employment and job security are gradually fading and more and more employees have to accept precarious jobs, *employability* gains in importance. VET systems should be adapted such that individual employees and the local labour market are able to get over possible shocks caused by globalisation. In our opinion, VET should try to enhance employability such that employees are less vulnerable to the negative consequences of globalisation.

- Within the vocational training system, *ICT applications* and the resulting *qualification needs* should get major attention. That is because ICTs become important in an increasing amount of sectors and functions. Furthermore, the ICT sector itself faces quantitative as well as qualitative labour market shortages. Vocational training should contribute to reducing the qualitative ones. Finally, due to globalisation, ICT applications can occur anywhere on the globe. It is important for a region to develop the necessary skills before activities get outsourced abroad.

- We also want to mention that the widespread use of modern ICTs not only creates additional qualification but also training needs. At the same time, ICTs can impact on the *delivery of training* too. Many employers already utilise IT to deliver training, through the provision of open learning centres, computer packages which personnel can work through in their own free time, etc. There has also been a growth in distance learning and experimentation with the delivery of learning to people who are unable to attend classes regularly, or who want to learn in their own free time (Schienstock et al. 1999). Multimedia, hypermedia, Internet and the World Wide Web have led to an almost boundless optimism concerning the optimising of both teaching and learning (Lammont 1999). The new media can give rise to new learning formats and venues in general and especially in vocational training. They allow for a transition from instructional to constructive learning-teaching concepts as

well as from other to self-direction in learning (see Straka and Stöckl 1998, p. 183-214 for a further discussion).

4. Globalisation and challenges to VET: some policy recommendations

1. The observation that few tendencies prevailing in literature are based on empirical evidence, does not mean they do not exist; neither is it a reason to postpone debate. However it is an urgent reason to emphasise the *need for a greater empirical underpinning of the theory*. Since (a lack of) learning opportunities are undeniably anchored in organisational structures, more specifically in the division of labour (cf. also infra), we argue in favour of the introduction of *permanent observatories in the field of work organisation*. These should log common practices and trace change processes with regard to the usage of technology, division of labour and employment relationships within different industrial and service sectors. This information will allow us to formulate the challenges faced by VET more precisely. We now elaborate further on some of these challenges.

2. Within the vocational training system, *ICT applications* and resulting *qualification needs* should get major attention because ICTs are becoming important in an increasing amount of sectors and functions. Further, the ICT sector faces quantitative as well as qualitative labour market shortages. Vocational training should contribute to reducing the qualitative ones. Finally, due to globalisation, ICT applications can occur anywhere on the globe. It is important for every region to develop necessary skills before activities get outsourced abroad.

3. We also want to mention that the widespread use of modern ICTs not only creates additional qualification but also training needs. At the same time, ICTs can impact on the *delivery of training*. Many employers already utilise IT to deliver training, through the provision of open learning centres and computer packages which staff can work through in their own free time, etc. There has also been growth in distance learning and experimentation with the delivery of learning to people unable to attend classes regularly, or who want to learn in their own free time (Schienstock et al. 1999). Multimedia, hypermedia, Internet and the World Wide Web have led to almost boundless optimism concerning the optimising of both teaching and learning (Lammont 1999). The new media can give rise to new learning formats and venues in general and especially in vocational training. They allow for transition from instructional to constructivistic learning-teaching concepts as well as from other to self-direction in learning. For further discussion of these new possibilities, we refer to Straka and Stöckl (1998, p. 183-214).

4. Schienstock et al. (1999) argue that 'there is no general trend towards knowledge-based work. Instead, we can expect some kind of *polarisation* with increasingly knowledge-based jobs on the one hand and more repetitive and less information and knowledge-intensive work on the other' (p. 50). We already quoted Henwood (1998) and his reference to the 'polarising tendencies in the labour market'. Henwood fears that globalisation might even speed up the process of polarisation. In our opinion, this contains a major challenge for vocational and educational training systems. VET should try to avoid the exclusion of those falling out of the upper segment of highly qualified personnel.

5. Due to globalisation, local labour markets can suffer from large 'shocks'. Think of the situation in which a large company decides to move or close down one of its plants. As lifelong employment and job security are gradually fading and more and more employees have to accept precarious jobs, *employability* gains in importance. VET systems should be adapted so that individual employees and the local labour market are able to get over possible shocks caused by globalisation. In our opinion, VET should try to enhance employability so that employees are less vulnerable to the nefast consequences of globalisation. However, it is often forgotten that enhancing employability heavily relies on the learning possibilities offered by work organisation.

6. Learning opportunities not only presuppose varied work, with different and new challenges (task requirements), but equally autonomy to deal with task requirements, the possibility to develop own strategies and to improve and change them (control capacity). VET policy often takes these presuppositions for granted, whereas empirical research shows that the conditions are far from always fulfilled. In our opinion, there is no use in *pushing* employees to expand their competences through further training and education, without asking the question whether there is enough *pull* in the work organisation to assimilate the competences in hand. Increasing learning opportunities for workers has to go hand in hand with organisational restructuring towards less division of labour. Up to now, decisions regarding the division of labour have remained the absolute prerogative of the employer side, as if VET policy stops at the gateway of the organisation. VET policy should go further: *more attention should be given to the demand side of the debate*, i.e. the division of labour within companies.

7. The question is now how organisations can be stimulated to engage in organisational reorientation facilitating employee, and thereby organisational, learning. We are convinced that VET policy can make an additional effort, e.g. through active *promotion* and *distribution of information* on the advantages of a new organisational logic, better use of human capital, organisational learning, etc. Quite often, companies are willing to introduce teamwork or reduce their division of labour, but they lack the know-how to do it adequately. It is very important to disseminate *good practice examples* to a wider public, thereby taking optimal advantage of available experience. If necessary, *counsellors or consultants* can be placed at companies' disposal. Furthermore, sharp competition can prevent companies from experimenting with new learning programmes, where only the costs and not the benefits can be calculated beforehand. It might be useful to develop programmes aimed at *subsidising* innovative training programmes and learning initiatives.

5. Summary

This contribution focused on the relationship between globalisation, division of labour and company training needs. At first sight, no clear or simple relationship emerged between these three concepts. They seemed to be randomly chosen. Yet, a lot of authors have tried to connect or relate the concepts in one way or another. Emerging changes in the division of labour have been attributed to the process of globalisation. Globalisation, as well as changes in the division of labour, are expected to require new skills, competencies and work attitudes from employees. On the one hand, this imposes major challenges on vocational and educational training (VET) programmes. On the other hand, competencies acquired in a renewed VET philosophy will further influence the process of globalisation and changing division of labour.

On the basis of extrapolation of emerging trends, the 'artificial triangle' between globalisation, division of labour and company training needs has been disentangled. In this contribution, we have given an overview of how this is done. It has become clear that little tendencies prevailing in literature are based on true empirical evidence. We have critically questioned the pace of evolution of tendencies and tried to formulate alternative hypotheses. But even if things are changing much more slowly than suggested in literature, there is no harm in already looking at potential consequences of future changes. It is useful to take into account the consequences of globalisation on the division of labour and company training needs.

Bibliography

Appelbaum E., Batt R., 1994. *The new American workplace, transforming work systems in the United States*. Cornell: ILR Press.

Bartlett C., Ghoshal S., 1989. *Managing across borders. The transnational solution*. London: Century Business.

Boudreau M. et al., 1998. Going global. Using information technology to advance the competitiveness of the virtual transnational organization. *The Academy of Management Eexecutive*, **12** (4), pp. 120-133.

Carnevale A., 1992. What training means in an election year? *Training and Development*, **46** (Oct.), pp. 45-43.

Castells M., 1997. *The rise of the network society*. Maldon Mass/Oxford: Blackwell Publishers.

Cedefop, ed., 1998. *Vocational education and training – the European research field. Background report*. Luxembourg: EUR-OP (2 volumes)

Cuyvers L., 1994. Internationale spelregels in een geglobaliseerde economie. *Samenleving en Politiek*, **1** (3), pp. 36-43.

Dancet G., 1985. De naoorlogse loonarbeidsverhouding in België. *In:* Polekar, *Het laboratorium van de crisis. Debat over een nieuwe maatschappelijke ordening*. Leuven: Kritak.

Dench S., Perryman S., Giles L., 1998. *Employers Perceptions of Key Skills*, forthcoming IES Report, Brighton.

Dertouzos M. et al., 1989. *Made in America. Regarding the productive edge*. Cambridge: Mass, and London.

Dybowski G., 1998. New technologies and work organization. Impact on vocational education and training. *In:* Cedefop, ed., Vol. I., pp. 115-156.

Ernst D., Lundvall B., 1997. *Information technology in the learning economy. Challenges for developing countries*. DRUID working paper, No 97-12. Aalborg: Danish Research Unit for Industrial Dynamics.

European Commission, 1996. *Green paper. Living and working in the information society: people first*. EC, DG V/B/5. Available on Internet: http://www.ispo.cec.be/infosoc/legreg/docs/peopl1st.html.

Fernie S., Metcalfe D., 1987. *(Not) hanging on the telephone. Payment systems in the new sweatshops*. Centre for Economic Performance Discussion, Paper 390.

Frenkel S. et al., 1993. Reconstituting work: trends towards knowledge work and info-normative control. *Work, Employment and Society*, **9** (4).

Fruytier, 1994. *Organisatieverandering en het probleem van de Baron van Münckhausen. Een systeemtheoretische analyse van de overgang van het Tayloristisch productieconcept naar het nieuw productieconcept*. Delft: Uitgeverij Eburon.

Fulk J., de Santis G., 1995. Electronic communication and changing organisational forms. *Organisation Science*, **6** (4).

Hedlund G., Rolander D., 1990. Action in heterarchies. New approaches to managing the MNC. *In:* Bartlett C., Ghoshal S., eds.

Hedlund G., eds. *Managing the global firm*. London/New York: Routledge.

Henwood D., 1998. Talking about work. *In:* Meiksins Wood E., Meiksins P., Yates M., eds. *Rising from the ashes? Labour in the age of 'global capitalism'*. New York: Monthly Review Press.

Hirst P., Thompson G., 1996. *Globalisation in question*. Cambridge: Polity.

Hitt M. et al., 1998. Navigating in the new competitive landscape: building strategic flexibility and competitive advantage in the 21st century. *The Academy of Management Executive*, **12** (4), pp. 22-42.

Huws U., 1999. Material world. The myth of the 'weightless economy'. *In:* Panitch L., Leys C., eds. *Global capitalism versus democracy*. New York: Monthly Review Press, pp. 29-55.

Huys R. et al., 1995. *De uitgestelde transformatie. Technisch en sociaal-organisatorische herstructureringen in de chemische, de automobiel- en de machinebouwindustrie*. Brussel: FDWTC.

Huys R. et al., 1999. Towards less division of labour? New production concepts in the automotive, chemical, clothing and machine tool industries. *Human Relations*, **52** (1), pp. 67-93.

Incomes Data Services, 1997. *Pay and conditions in call centre*, IDS Report 739, London.

Inkpen A., 1998. Learning and knowledge acquisition through international strategic alliances. *The Academy of Management Executive*, **12** (4), pp. 69-80.

Kern H., 1994. Globalisierung und Regionalisierung in industrieller Restrukturierung. *In:* Krummbein W., ed. *Ökonomische und polistische Netzwerke in der Region*. Beiträge aus der internationalen Debatte, Münster.

Kern H., Schumann M., 1984. *Ende der Arbeitsteilung? Rationalisierung in der industriellen Produktion: Bestandsaufnahmen Trendbestimmung*. München.

Kruse W., 1996. Work process knowledge and quality of vocational training. In: *Papers of the third work process knowledge meeting*. Bremen 12-14 December, pp. 88-90.

Lammont N., 1999. *Work process knowledge in technological and organizational development 1998-2000 (Whole): literature review*. Manchester (unpublished).

Lane C., 1995. *Industry and society in Europe. Stability and change in Britain, Germany and France*. Alderschot: Edward Elgar Publishing Limited.

Lee H.K., 1999. Globalization and the emerging welfare state. The experience of South Korea. *International Journal of Social Welfare*, **8** (1), pp. 23-37.

Livingstone D., 1998. *The education-jobs gap. Underemployment or economic democracy*. Boulder, Colorado: Westview Press.

Lundvall B.-Å., Johnson B., 1993. The learning economy. *Journal of Industry Studies*, **1** (2), pp. 23-42.

Meiksins Wood E. et al., 1998. *Rising from the ashes? Labor in the age of 'global capitalism'*. New York: Monthly Review Press.

OECD, 1998. *Report on 'human capital investment'*. Paris: OECD.

O'Siochru S., Jordan B. (Nexus, Ireland), 1999. *Telecentres: sweatshops for the millennium?* Conference Information society challenges: organisations, work and employment, Lisbon, 11 February 1999.

Parker B., 1996. Evolution and revolution: from international business to globalization. *In:* Clegg R., Hardy C., Nord W., eds. *Handbook of organization studies*. London: Sage Publications Ltd., pp. 484-506.

Parmentier K. et al., 1993. *Berufs- und Erwerbsstrukturen West- und Ostdeutschlands im Vergleich*. Ergebnisse aus der BIBB/IAB-Erhebung 1991/92. Beiträge zur Arbeitsmarkt- und Berufsforschung 176, Nürnberg.

Pollet I. et al., 1999. Het verdrongen land. Verdringing op de arbeidmarkt: ook de verantwoordelijkheid van organisaties? *In:* SSA-WAV, *De arbeidsmarkt in Vlaanderen. Jaarboek 1999*. Leuven: Steunpunt WAV, pp. 277-309.

Porter M., 1986. Changing patterns of international competition. *California Management Review*, **28** (2).

Quinn J., 1986. Technology adoption. The service industries. *In:* Landau R., Rosenberg N., eds. *The positive sum strategy*, Washington DC: National Academy Press.

Radice H., 1999. Taking globalisation seriously. *In:* Panitch L., Leys C., eds. *Global capitalism versus democracy*. New York: Monthly Review Press, pp. 1-28.

Rayp G., 1995. Misleidende globalisatie? *Vlaams Marxistisch tijdschrift*, sept. 1995 (3).

Reardon G., 1996. *Externalising information processing work. Breaking the logic of spatial and work organisation*. United Nations University Institute for New Technologies, Conference on globalised information society – employment implications. Maastricht.

Roberts K. et al., 1998. Managing the global workforce: challenges and strategies. *The Academy of Management Executive*, **12** (4), pp. 93-106.

Ruigrok W., Van Tulder R., 1995a. Misverstand: globalisering. *Economische statistische berichten*, dec. 1995 (4038), pp.1140-1143.

Ruigrok W., Van Tulder R., 1995b. *The logic of international restructuring*. London and New York: Routledge.

Schienstock G. et al., 1999. *Information society, work and the generation of new forms of social exclusion (Sowing): Literature review*. Tampere: University of Tampere, Work Research Centre.

Schumann M. et al., 1994. *Trendreport Rationalisierung. Automobilindustrie, Werkzeugmaschinenbau, Chemische Industrie.* Berlin: SOFI.

Sels L., Van Hootegem G., 1998. Is the pendulum swinging back? Patterns of skill change in the machine-tool industry. *Review of Labour Economics and Industrial Relations*, **12** (3), pp. 541-569.

Soete L., 1996. Social impacts of the information society. National and community level. *In:* Finnish Institute of Occupational Health, *Work in the Information Society.* Helsinki.

Sorge A., Streeck, W., 1988. Industrial relations and technical change: the case for an extended perspective. *In:* Hyman R., Streeck W., eds. *New technology and industrial relations.* Oxford: Basil Blackwell.

Stahl T. et al., 1993. *The learning organisation. A vision for human resource development.* Commission of the European Communities.

Staudt E., 1994. Management von Innovationen ist Management von nicht-Routine-Prozessen. *Die Mitbestimmung*, **9**, pp. 33-36.

Straka G., Stöckl M., 1998. New learning formats and venues in the context of information and communication technologies. *In:* Cedefop, ed., Vol. II, pp. 183-214.

Taylor F., 1972. *Scientific management.* Westport: Greenwood Press.

Tessaring M., 1998. The future of work and skills. Vision, trends and forecasts. *In:* Cedefop, ed., Vol. I., pp. 271-317.

Van den Hooff B., 1997. Van electronische memo's naar global networking. Interactie tussen organisatie en ICT. *Informatie en informatiebeleid*, **15** (4), pp. 17-24.

Van Hootegem G., 1999 (forthcoming). *De dragelijke traagheid van het management.* Acco: Leuven.

Vandenbroucke F., 1996. Op zoek naar een redelijke utopie. Kanttekeningen bij het Rapport van de Groep van Lissabon. *Samenleving en Politiek*, **3** (4), pp. 3-27.

Wade R. 1996. Globalization and its limits. Report of the death of the national economy are greatly exaggerated. *In:* Berger S., Dore R., eds. *National diversity and global capitalism.* Ithaca NY: Cornell University Press.

Waters M., 1998. Postfordism and the globalization thesis: myth and reality. Congress paper *Work employment and society* conference, Cambridge University, 14.9.1998.

Weiss L., 1998. *The myth of the powerless state. Governing the economy in a global era.* Cambridge: Polity Press.

Williams K. et al., 1992. J. Ford versus 'Fordism': the beginning of mass production? *Work, Employment and Society*, **6** (4), pp. 517-555.

Williamson O., 1981. The economics of organization the transaction cost approach. *American Journal of Sociology*, **87** (3), pp. 548-577.

Zahra S.A., 1998. Competitiveness and global leadership in the 21st century. *The Academy of Management Executive*, **12** (4), pp. 10-12.

Zahra S. A., O'Neill H.M., 1998. Charting the landscape of global competition: reflections on emerging organizational challenges and their implications on senior executives. *The Academy of Management Executive*, **12** (4), pp. 13-21

Training, mobility and regulation of the wage relationship: specific and transversal forms

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With the assistance of Philippe Méhaut

Abstract

Debates on the role of training within economic growth and labour markets touch upon public policies and the roles of enterprises and individuals concerning the formation and accumulation of human capital. This paper discusses the main trends in current research devoted to an economic analysis of the wage-labour link. This refers to questions linked to the structure and mode of functioning of internal and external labour markets as well as to the difficulties of empirical verification of the theories of dual labour markets and segmentation.

The paper examines the crisis of internal labour markets in France and new configurations of its system of mobility. The characteristics of other forms of the wage-labour link are also discussed, focusing on the functioning, transformation and/or on the crisis of occupational labour markets in Germany and Great Britain compared to France. The paper concludes by indicating new relationships these countries have established in vocational training to understand better the principal evolutions of the current wage-labour link.

482

Table of contents

Introduction 47

1. Theoretical and empirical foundations of the wage relationship 48
1.1 Specific features of the wage relationship 48
1.2 Segmentation of the labour market and mobility mechanisms: from a complex concept to the problem of empirical tests 51
1.2.1 Why do internal labour markets exist? Preliminary concepts 51
1.2.2 The multidimensional justification of internal labour markets or the impasse of a general theory of internal labour markets 53
1.2.3 Operation and justification of the dualist structure of the labour market 55
1.2.3.1 Early definitions of dualism 55
1.2.3.2 An alternative use of dualism 55
1.2.3.3 Mobility mechanisms and their effects in the dualist version of segmentation: negative feedback effects 57
1.2.3.4 De facto dualism: selected findings from French data 59

2. Decline in the effect of seniority, new external market patterns or crisis in the French internal labour market 59

3. Organisational principles of the wage relationship: specific institutional features, rules on manpower management, mobility and training 62
3.1 Institutions and labour markets: between occupational labour markets and internal labour markets 63
3.1.1 Comparison between France and Germany 63
3.1.2 Comparison between France and the United Kingdom 64
3.1.3 The concept of the occupational labour market 65

4. The new relationship with vocational training in the internal labour markets and the occupational labour markets 67
4.1 Definition of vocational training systems 67
4.2 Crisis and recent changes in vocational training systems 68
4.2.1 Crisis or confusion in the dual system? 69
4.2.2 The failure of apprenticeship in the United Kingdom and the disappearance of the occupational labour market 71
4.2.3 The trend in vocational training in France 73

5. Conclusion 75

Annex 1.
The problem of segmentation tests: the use of earnings functions to validate the dualist hypothesis 77

Bibliography 85

483

Introduction

For a long time now there has been some debate about the role of training, in relation both to the European growth model and to the functioning of the labour market. This debate affects both public policies and the role of enterprises and individuals in the formation and accumulation of 'human capital'. The main European theses, clearly summarised in the European Commission's White Paper (1995) on the learning society, emphasise two aspects:

- With globalisation and the advent of the 'information society' Europe must embark on high added value production systems, in which knowledge plays a central role. So the level of employee qualification needs to be upgraded in the long term. This kind of strategy depends on the quality of the initial training and of the life-long acquisition of knowledge, which is the responsibility of the individual and enterprises in the way that they manage their human resources.
- The trend in means of acquiring knowledge (the place of the new information and communication technologies) on the one hand and the labour market trend on the other (towards greater flexibility) should lead to substantial changes to the prevailing rules, in regard both to training systems (new forms of training, changes in means of acquiring certificates) and to the labour markets themselves (deregulation or new regulations).

In view of this situation, a number of proposals have been put forward for 'a strategy for Europe'. At the same time, many studies on the way enterprises manage their human resources, on how these link up with national training systems and on the role of (initial and continuing) training in the labour market emphasise the contingent nature of these methods of human resources management in relation to the national situations. For instance, they draw attention to the fact that although the labour markets of some European countries are increasingly closing their doors to poorly trained individuals and young people, this is not a universal trend (Steedmann 1999, forthcoming). They emphasise that the position and rate of return of continuing training differ (Aventur and Möbus 1999) depending on whether the training is pursued at the initiative of the individual or the enterprise. Similar trends emerge in methods of mobilising the employees and improving their skills, but they are reflected in actual practices, in relation for example to recruitment or continuing training, that are consistent with national models which may be in the process of change yet retain certain strong, long-term structural features.

The identification of these structural features, and of what makes them dynamic, thus becomes a central factor in the adjustment of Community or national policies.

But it is extremely difficult to identify them: the theoretical references are heterogeneous; a number of clearly identified national models predominate, but there is some doubt whether they can be transposed to the 15 EU countries (or there is simply a lack of data) and it is difficult to introduce any dynamism into analyses that emphasise the stylised facts that are characteristic of each country.

By focusing on the three large countries in which these kinds of analyses prevail (we will discuss the limitations of this option in our conclusions), we shall try, first of all, to identify the main trends of current research relating to the economic analysis of the wage relationship. We shall look in depth at issues raised in the debates on the structure and operation of the labour market and at the difficulties of analysing them in empirical terms; we will take dualism as an illustration of this (Part I).

We will then summarise the conclusion relating to France and make a detailed analysis of the crisis in the French internal labour markets and the new patterns of its mobility system (Part II).

Part III will look more openly at the features of other forms of organising the wage relationship. We will describe the principles governing the operation, transformation and/or

crisis in the occupational labour markets in Germany and the United Kingdom (drawing a comparison with the situation in France throughout this study).

Part IV will take a more direct look at these three countries' new approach to vocational training, as a means of identifying more closely the main trends of the wage relationship today.

In our conclusion, we shall come back to the questions raised by this type of work, in order both to determine the prospects for research and further study and to identify the 'new practices' of human resources management and the new public training and employment policies.

1. Theoretical and empirical foundations of the wage relationship

1.1 Specific features of the wage relationship

In economic policy, economists realised from the outset that the wage relationship was a special feature of other market relationships. A purely neo-classical market analysis cannot produce any relevant analysis of the wage relationship. Inflexibility and institutional rules (wage grids, rules on mobility, on access to continuing training, performance incentives, early retirement and retirement) are not directly controlled by the market or, more generally, by the kind of coordination proposed by Walras.

However important Adam Smith (1776) considered his theory of compensatory differences as a means of constructing a competitive mechanism for analysing the labour market, he clearly recognised that the competitive wage theory remained incomplete if it did not take account of the balance of power between the partners to the wage relationship[1]. Aside from arguing that wage differentials were justified on the basis of compensatory differences, Adam Smith believed that certain institutional constraints could lead to unequal treatment between equally qualified individuals. The way the apprenticeship system operated and corporate practices were, in his view, obstacles to mobility and therefore reduced the pressure of competition to level out wage differentials.

This caveat is echoed in later works, which regard this as the main principle for regulating the wage relationship and go on to establish the theory of the 'segmentation of the labour market'. In the following we shall emphasise the change in economic thinking about the operation of the labour market, to help us analyse recent works on the subject and describe certain stylised facts more precisely.

To begin with, we have to refer back to what was a very important historical approach and one supported by, among others, Cairnes and Mill (see Marsden 1989 for more details), relating to non-competitive groups. According to this way of thinking, the segmentation of the labour market stems from the existence of social groups seeking to protect their activity, their source of income, from competition. They restrict access to these so-called 'non-competitive' activities by tying it to a costly investment in education. Social class and education are also determining factors in the early segmentation of the market insofar as the market is segmented well before an individual enters into working life. Wage inequalities are not primarily determined by the principle of compensation that Adam Smith presents as the dominant law of payment for work. The existence of these non-competing groups is an obstacle to competition and to equalising the rates of return of the various investments in education.

At that time the aim was simply to reduce the inequalities in access to education in order to reduce the power of the more fortunate and therefore, implicitly, more educated groups. It is worth noting that the consequences of the education-based solution in France as in other European countries tend

[1] The author points to this difficulty in Chapter 8; for a more detailed analysis see Cahuc and Zylberberg (1996; p.8)

to undermine this approach. We must not forget that the phenomenon of downgrading at the moment of recruitment has been worsening since the early 1990s, although the objective of bringing 80% of a same age group up to baccalaureat level has been enshrined in French law since 1989.

Pigou (1945) justifies the non-competitive nature of the wage relationship by referring to the phenomenon of union coalitions or the heterogeneous nature of the labour factor, while also regarding the specificity of the latter, depending on the production centres, as the fundamental cause of the segmentation of the labour market. This specificity can be explained by factors linked to the type of technology, its localisation and the characteristics of the employment field that, in the end, make the labour factor less mobile.

These findings were examined in rather more depth from the 1950s onwards, leading to the formulation of what is regarded as the modern version of the segmentation theory. The new approach focused on the complexity of modern capitalism and on the stronger role of the institutions in western society. The existence of coalitions (unions of employees, branches, industrial groups, etc.) and the many forms of state intervention in the market (by legislation or by the employer) are real factors that need to be integrated explicitly in any analysis of the labour market. It shows that there are a great many levels involved in the negotiation of the employment relationship and that they reach beyond the framework of the two players strictly involved in the wage relationship. In the view of Kerr (1954), the institutional rules of the labour market create frontiers between the labour markets and make those frontiers that already exist even clearer and more difficult to cross. They specify the points of competition, the groups that have access to this competition and the conditions under which they take part (op. cit.). Kerr identifies five sources of barriers that divide the labour market into distinct compartments: the employees' individual preferences, the employers' preferences, the activities of the body of workers as a community, those of the community of employers and, lastly, the activities of the state. This has produced a 'balkanised' labour market in which a set of institutional rules defines the limits between the internal and external components of the market. Because of this balkanisation, neo-classical theory cannot accurately describe the entire labour market. It can only describe its external component. The theory of market unicity is no longer tenable and Kerr (1954) distinguishes three types of labour market: competitive markets without union organisation, trade markets and enterprise markets.

There are certain barriers to access to the latter two markets: the need to have obtained a certificate of completed training or the employer's decision to hire the employee[2]. From the outset, there are certain questions about the obstacles to entry to these markets and the original hypothesis of segmentation in the few empirical works we refer to below. Kerr (1954) emphasises that there is little chance of mobility between them. The administrative rules and their management take precedence over the technical characteristics of the qualification (Marsden 1989, Ch. 5). That reduces the career opportunities of workers who have the necessary capacities but find themselves excluded from these markets. Kerr (op. cit.) describes them as 'non-citizens without rights'.

The trade and enterprise markets are internal labour markets. Kerr (op. cit.) and Dunlop (1958) give a definition of the internal labour markets that was then also adopted by Doeringer and Piore (1971) on the basis of entirely different objectives, as we shall see later. The internal labour market is an administrative entity within which the allocation of labour and the fixing of prices are governed by a body of rules and administrative procedures. Conversely, on what is called the external market, the price and allocation of labour are determined by the play of labour supply and demand. For Kerr, the main outcome of the institutional rules is a separation

[2] Contrary to the theory of non-competing groups, individuals who are already in the labour market find their access to the market restricted at the point of entry to these markets; access is no longer decided even before they enter working life.

between the labour market, in the sense of a process of allocating employees to jobs, and the method of determining wages.

In the view of Marsden (1989), one of the main attractions of the concept of 'balkanisation' is that it makes it possible to reconcile the influence of market forces and of institutional and social forces.

This overview shows that the analysis of the wage relationship must be more broadly based than it is in the traditional hypotheses of economic science, which concentrate on the scarcity of resources or the rationality of behaviour.

Compared with other market relationships, the wage relationship is marked by a tension between two perspectives: the first is the market perspective, the second focuses on the special features of transactions involving labour services. The great difficulty of labour economics was and still is how to find a synthesis between these two perspectives, which have long seemed antagonistic (Cahuc and Zylberberg 1996). The wage relationship is in effect marked by three special features:

1. Firstly, the wage relationship can be regarded as one governed by a principle of informational asymmetry, to the benefit of the employer. The employer is regarded as the holder of information who wishes to impose a certain behaviour on the employee; that entails the risk of compromising his objectives, for he may come up against the classical problem of moral uncertainty or adverse selection. So at the heart of this approach lies the idea of the employer's power of command, insofar as he is hiring the labour services. Labour law and all the institutional characteristics of an economy therefore play an important role in regulating the wage relationship.

2. Secondly, economists all agree that the wage relationship can only be assessed over the long term, given the non-fulfilment of the employment contract. This particular feature derives from the nature of the object exchanged and the time devoted to the work and the way it is organised. Rules on promotion by seniority and external mobility can only be looked at over time and may be specific to the enterprise or be the more general characteristics of a type of social organisation.

3. Thirdly, the wage relationship is a collective relationship. The production of goods and services requires methods of enterprise and employee organisation that vary from one society to another and one era to another.

Given these special features, it would be premature at this point to speak of a predominant form of wage relationship, evaluate its effectiveness or assume it was irreversible.

In fact, there is a substantial body of international research today that looks at the crisis of employment in western societies and emphasises the specific national features of systems of education, training and labour market operation.

Our own earlier research work and the small number of international comparisons carried out in this field have shown that the influence of the institutions and of the rules on the functioning of the labour market in France, in Germany and also in the United Kingdom is the determining factor for explaining the mobility mechanisms at the start of working life and those relating to medium-term careers more generally. For example it is becoming increasingly legitimate to speak of 'integration à la française', of the French internal labour market, the English occupational labour market, the German qualification model or even of the Japanese model of skills (Marsden 1998).

In a more extreme and general fashion, Marsden (1998) very recently concluded that the societal effect remains one the most important findings of multidisciplinary and comparative research in the social sciences.

In the second edition of their work, Doeringer and Piore (1985) return to the attack and try to show that the conceptual specificity of internal labour markets in relation to all the developments to which it has given rise since

1971 when their work first appeared, developments which reflect a neo-classical trend. The authors emphasise that the findings of international comparisons seems to point to the important role of institutions and social relations in the emergence of internal labour markets.

1.2 Segmentation of the labour market and mobility mechanisms: from a complex concept to the problem of empirical tests

The empirical literature (whether econometric or descriptive) looks at the concept of internal labour markets and, in particular, questions the dualist vision of segmentation. Recent findings, based largely on international comparisons and a number of econometric tests, show that the description of the labour market cannot be reduced to two segments and even less to a supposedly universal concept such as that of the internal labour market.

In the following we will present the results of the research on which our questions are based.

1.2.1 Why do internal labour markets exist? Preliminary concepts

According to Doeringer and Piore (1971), the segmentation of the labour market results from the existence of markets in the form of administrative entities whose mode of coordination cannot be explained by competition theory. These entities are 'internal labour markets' and the authors try to explain their existence by constructing a synthesis between the theory of specific human capital posited by Becker (1993) and the institutionalist theory (Ballot 1996; Marsden 1989; Taubman and Wachter 1986; Wachter and Wright 1990). These markets exist because of the mutual advantage offered to the workers and the employers when there is a need for specific forms of training. They result from the behaviour of enterprises, which minimise the costs of investment in training in order to adapt to the introduction of a specific technology. That specific technology results in specific jobs and qualifications, within a given enterprise, and guarantees job stability.

The two authors regard job stability as the predominant feature of the internal labour market. This long-term commitment in regard to the wage relationship is founded on the theory of specific training investment (Becker 1993). A particular feature of this kind of investment is that it raises productivity only in the investing enterprise. This mechanism explains why the wage relationship is then more stable. It runs counter to what is called general training, which finds outlets in many enterprises.

In their second chapter Doeringer and Piore (1971) therefore discuss the specific investment theory posited by Becker (1993) as one of the options that would encourage enterprises and employees to maintain a durable relationship. Indeed the tendency to look to investment returns may be reduced if the two parties share the costs of specific investment in training. For example, the employees may finance their own training if their wages are below those offered on the external market. For their part, the enterprises will invest in training if there is a disparity between the employees' marginal productivity and their wage levels. Under these circumstances, employees are dissuaded from leaving the enterprise while the enterprise is dissuaded from laying them off. As a result, the optimal wage profile will grow with seniority if the investment is repeated. This corresponds to the practice of paying bonuses or promoting on the basis of seniority. It has led to some authors to put forward the idea of an econometric test of dualism. In the primary sector, where the internal labour markets are situated, the function of earnings will be consistent with the human capital model, while in the secondary sector wages are not affected by the accumulation of human capital. This observation was to be translated by the definition of two segments, which merely represent a simplified version of the theory of Doeringer and Piore (1971) for the secondary sector or Piore (1975) for the primary. From a strictly econometric point of view, this approach basically led to a consideration of two functions of earnings, with or without methodological precautions, which were believed to reflect the organisation of the labour market around two forms of the wage relationship.

The justification put forward by Doeringer and Piore (1971) for the existence of internal labour markets may seem a little perplexing in the face of enterprise training policies, where it is always difficult to posit a dichotomy between the general and the specific. Furthermore, some recent versions of the human capital theory show that it may be in the enterprise's interest to finance general training (Katz and Ziderman 1990; Stankiewicz 1995). Ballot (1996) puts forward an interesting argument. Western societies are characterised by innovation, which produces quasi-monopoly returns. The general training of employees promotes innovation and access to these quasi-returns, which is an incentive to the enterprise to finance it provided the manpower turnover rate is not too high.

Moreover, we must draw a distinction, as Watcher and Wright (1990) do, between the investment in human capital and another specific investment, involving the match between the employee and the enterprise. This second investment relates to the situation where the employee and the employer are 'well-matched'. That implies a larger anticipated surplus than the surplus that would result from the random allocation of an employee to a job. The scale of this surplus can be determined by the employees and the enterprises of the internal labour market via the intermediary of the external market. This market is in fact described as the point where enterprises and employees invest little in the employment relationship. Firms can lay off employees and employees can leave the enterprise at little cost. In the extreme case, the irrecoverable costs characteristic of internal labour markets do not exist. The two parties have little to lose when the contract between them comes to an end. At that point the external market offers external opportunities for the internal labour market employees and therefore defines the limit below which their 'internal' wages cannot fall. For enterprises, the external market represents a reservoir of manpower and the extent to which they draw on it determines the scale of the surplus. In fact, if enterprises recruit external employees rather than turning to employees already integrated in the internal labour market, they will lose in productivity since the internal labour market depends on specific investment in matching the two sides.

In addition to specific qualifications, Doeringer and Piore (1971, Ch.2) also identify other factors that contribute to generating internal labour markets, factors that also derive from the specificity of the technology. They relate to on-the-job training and workplace habits.

On-the-job training forms part of the causal chain that Marsden (1989) deduces from the literature on internal labour markets: specificity of the technology → specificity of the job → advantages of on-the-job training → specificity of the qualification → type of internal mobility → structure of the internal labour market. Depending on the job for which the worker is hired, on-the-job training enables him either to acquire the skills required for that job or is a prerequisite for making use of his formal education. In every case, it is the production process that governs the training process. It is that which penalises mistakes and rewards the 'novices' progress and therefore acts as an impetus to training. The more specific the technology used within the enterprise, the more specific the jobs will be, and the training associated with these jobs will be more profitable if it is done on the job. In extreme cases, a worker can learn simply by observing more experienced workers. The cost of this training is even lower if it reflects the promotion steps: workers progress from job to job, with each job teaching them the skills needed for the next job. So on-the-job training is clearly the source of the specificity of the qualification. Transposed to the working environment, specificity discourages any standardised training. It renders the skills thus produced very specific to the context in which they were acquired.

In this context, minimising the loss of irrecoverable costs of specific investments (in the event that both parties bear them), encourages the employer and the employee to establish an enduring employment relationship. Aside from specific investment, therefore, what really promotes this enduring relationship is all the costs of manpower turnover (cost of adjustment to the working environ-

ment, to the co-workers, of acquiring the enterprise culture, ...anything relating to the non-formal training peculiar to the enterprise and usually acquired on the job).

The stability of the employment relationship or the desire to create and maintain that stability is one reason for the development of internal labour markets. Job stability does in fact promote the creation of social groups that tend to establish 'a body of unwritten rules that govern the actions of their members and relations between members and non-members' (Doeringer and Piore 1971, p.23). These are the rules that Doeringer and Piore call workplace custom.

They are based on past or repeated practices and govern many aspects of the employment relationship because of their stabilising influence and because wages, like the allocation of work within the internal labour market, are very much subject to the influence of custom. Promotion by seniority and redundancy rules, administrative wage structures, for example, form part of these rules and are therefore difficult to change. Even if these rules originally reflected economic forces, custom makes them rigid and difficult to adjust in response to the dynamic of economic forces (Doeringer and Piore 1971, p. 40). Stability also leads to rigid and irreversible administrative rules, which, de facto, consolidates the internal labour market structure. Employers are in favour of this consolidation because it reduces turnover costs while workers like it if their qualifications are specific to the enterprise.

Aside from arguments based on the specific nature of certain investments, other factors – relating to contract theory – also play a part in the maximisation of the surplus by the two parties and ensure a stable employment relationship. According to Wachter and Wright (1990), they suggest that internal labour markets came into being as a result of the combined effect of four factors: investment specifically related to matching, the risk aversion differential between employees and employers, the asymmetry between the information held by the two parties and the transaction costs.

Recent literature willingly acknowledges that there is no question today of a general theory of internal labour markets. In any case, the proliferation of manpower management rules, the dynamic of their development and their specific nature according to country suggest that any one-dimensional attempt to justify the existence of these markets would be a very reductionist approach. If we adopt the recommendation by Wachter and Wright (1990) who propose a general theory of internal labour markets we would have to study the four factors cited above at one and the same time. As it stands at present, the literature on these markets is still rather hybrid, which is our first general criticism of it.

1.2.2 The multidimensional justification of internal labour markets or the impasse of a general theory of internal labour markets

The presence of specific investments cannot by itself ensure the existence of internal labour markets. According to Wachter and Wright (1990) it is justified in the context of an integrated approach to several factors that fall within contract theory.

The first of these factors goes back to the implicit contracts concluded between employers and employees, directly linked to the existence of specific investments. If all that existed on the market were general qualifications (which are therefore transferable without loss from one enterprise to another), changes to the supply and demand of the goods produced would have repercussions on wages and jobs as a result of market forces. When the employer and the employee take responsibility for specific investment, such changes, unless anticipated, can produce losses for both parties. In this context, and because they are supposed to be more averse to risks than their employers, employees accept a lower wage rate provided their earnings are guaranteed. The employers, who can diversify their portfolio, agree to take the risk of a decline in activity in return for the reduction of wage costs. So the employer offers an insurance service against economic ups and downs. This transfer of the risk benefits both parties.

Risk aversion cannot in itself explain the stability of the wage relationship. But it is an argument explaining the durability of that relationship once it has been created and it is a factor that complements specific investments.

Following the same logic of the maximisation of the benefits to both parties of the employment relationship, the contract concluded between them must prevent any 'opportunistic' use of the information advantage each has over the other. In fact, only the employees have information on their own efforts and only the employers know the state of the market and the technology. The two parties cannot obtain this information at the same cost and the party that has more information can use it for 'opportunistic' purposes. In this context of asymmetrical information, if the contract is to be effective it must ensure that the information is provided by the party that can acquire it at the lowest cost and must discourage any strategic use of that information.

If both parties try to maximise the coalition surplus, they will also seek to reduce the transaction costs. Since the negotiation and formulation of the employer-employee contract tend to involve high transaction costs, the two parties agree only on the general principles. It is too difficult to anticipate every contingency. The contracts then become enforceable given that the enterprise has to protect its reputation on the labour market and therefore refrain from any strategic behaviour.

In other words, the individuals cannot effectively turn to the external market again because of the transaction costs and the costs of permanent wage contract bargaining, while the enterprise can reduce these costs by internalising them.

Finally, the segmentation of the labour market is perceived as a response to the uncertainty on a market that contains a particular production factor – the labour factor – and that turns this market into a point of 'idiosyncratic exchange' (Williamson, 1975).

'Idiosyncratic' jobs on the internal labour market relieve the pressures of competition in relation to wages. Workers already employed in an enterprise have an advantage over outsiders, which gives them a certain monopoly power thanks either to the specific nature of the continuing training or to the rules based on the implicit employment contract (Taubman and Wachter 1986, p. 1189).

Doeringer and Piore (1971) believe that the minimisation of the costs of manpower turnover and more generally of the costs of specific investments are the main source of internal labour markets. Wachter and Wright (1990) believe that it is the combination of four factors – specific investment in matching, risk aversion, asymmetrical information and transaction costs – that lies at the source of internal labour markets and justifies their institutional operating rules. In other words, it is because of the uncertainty and the transaction costs that the employment contract, in which the two parties agree on the general principles of the employment relationship, becomes an adequate management instrument[1]. The employment contract is the solution to what Simon (1978) calls limited rationality, i.e. the fact that the human mind cannot provide for every contingency (reduce a complex and uncertain world to a manageable body of contingent contracts).

The internal labour market promotes joint investment in specific training by creating a climate of confidence, removes the fear of exploitation, guarantees wages, etc. It constitutes an effective system for encouraging co-operation and therefore triumphing over opportunism in the enterprise and reducing the costly bargaining on wages and employment (Doeringer and Piore 1971). Finally, by offering both parties mutual advantages, it makes the employment relationship more enduring.

The theoretical difficulties involved in formulating a sufficiently general approach to the internal labour markets explains why the

[1] Conversely, the external labour market that operates according to neo-classical principles uses sales contracts, defined as 'the exchange of a fully specified commodity (labour) for wages' (B. Reynaud, 1992).

theory of segmentation was applied empirically to the dualist version.

1.2.3 Operation and justification of the dualist structure of the labour market

The concept of the dualism of the labour market was formulated on the basis of several theoretical and empirical options in order to describe stylised facts linked to forms of mobility, integration, unemployment and also to the effectiveness of certain assistance measures for youth training.

1.2.3.1 Early definitions of dualism

There are in fact few works that set out more complex labour market structures than those described by the simple dualist models. Piore (1975) draws a distinction within the primary sector between an inferior and a superior segment. The attributes of the internal labour market are plain to see in the first segment – rigid wages, promotion and training policies conducted by the firms and all the coordination rules that lead to a very stable workforce within the enterprise. The second segment, however, is marked by highly qualified jobs involving responsibility, where the absence of rules produces great mobility between firms, an aspect which brings this segment closer to the secondary sector. In the light of this, it seems excessive to represent the entire primary sector as being organised around internal labour markets.

With the introduction of alternative means of adjustment between employees and employers – dropping out or consultation – Cahuc and Zajdela (1991) also manage to reveal and justify the presence of a comparable dualism even within the primary sector. According to their model, it suffices for the enterprise or the employees to decide not to set up means of consultation through a collective organisation – the union – and to choose to drop out for them to come under the secondary sector. Yet this dualism is still distinct from the traditional definition in that it too reveals wage rigidity by operating on the basis of a model of efficiency wages. The difference between the two main sectors in fact lies in the level of the firms' manpower turnover costs.

The structure of the labour market becomes even more complex with the split Doeringer and Piore (1971) see within the secondary sector. In fact the secondary market is made up of three groups of jobs. The first group consists of unstructured jobs with characteristics similar to those of jobs defined by competition theory. The second group consists of jobs which reflect the formal structure of internal labour markets but where there are multiple access pathways and difficult working conditions. They too are marked by low wages and very little upward promotion. The secondary sector jobs in the third group are marked by almost no chances at all of promotion and can occasionally be found in internal labour markets where primary sector jobs also exist.

Some econometric studies always regard the contract rules as a relevant criterion of segmentation (Cases and Lolivier 1994; Joutard and Werquin 1992). Aside from the problem of appointment a priori, according to this principle the distinction between the segments may be based on the intensity of manpower turnover or, quite simply, on the scale of external mobility. Yet these phenomena can sometimes be the mechanism by which optimum matching occurs in an economy without that being a strong or single characteristic of individuals with the least human capital.

1.2.3.2 An alternative use of dualism

The split of the labour market between these two segments widens even more with their use for alternative labour market theories. If they are neo-classical, these theories aim to give a better explanation of mobility phenomena; if they are post-Keynesian, they try to justify involuntary unemployment.

The phenomena of internal and external mobility may depend on a special matching process between employers and employees (Erikson 1991). At the time he enters working life, the individual's type of human capital is unknown; he is in an external market. Investment in human capital is assumed to be non-specific to a firm. Once the type of human capital has been identified, two alternatives emerge. If the individual joins an en-

terprise that matches his type, promotion is internal; if that is not the case, he has to turn to the external market to obtain that promotion. Certain economists have often interpreted the use of fixed-term contracts for integrating young people in working life as part of this kind of matching process.

Davis (1993) shows that the existence of job segments marked by a low level of human capital and little job security is the result of a particular kind of anticipation on the part of employees and enterprises[4]. The two parties may in effect anticipate a risk of undervaluing their investments during the bargaining process, which is reflected in a level of human capital and job quality (e.g. in terms of stability, training potential and wages) that is lower than it should be in an optimum social situation. Under these conditions, only jobs covered by a wage grid clarified ex-ante can lead to optimum matching and to quality jobs.

The allocation of an employee to a job, especially a promotion, acts as a signal sent to the external market about the evaluation of that employee by his superiors (Waldman 1984)[5]. Other enterprises may use this information to decide whether or not to hire a promoted employee. In extreme cases, one could argue that job stability and slow internal promotion are a signal of the employee's inability to upgrade his human capital even further on the market and/or in the enterprise hiring him. The most mobile individuals would be those whose qualifications are most sought after on the market. Moreover, enterprises may strategically reduce their promotion rates to discourage employees from leaving and to reduce their manpower turnover costs. That can, however, lead to a sub-optimal situation in that the skills of some employees would be under-used. Where a fair wage system exists at the level of the entire market, the enterprise may find itself in a situation where it need no longer fear its employees will leave. That could slow down promotions and, once again, lead to a sub-optimal use of the employees' experience for higher-qualified jobs within or outside the enterprise.

More generally, assuming that an employee's productivity depends more on the specific match between the employee and his employer, the matching models propose, for example, an alternative concept of mobility and consider that there is no such thing as a good or bad employee in absolute terms. In that case, the external market is the result of all the matches that have not proved very profitable for the employees and the enterprises. It is the means by which a convergence occurs towards the optimum matches (Ballot 1996; Wachter and Wright 1990). More specifically, according to the model of Jovanovic (1979), the productivity of a match becomes clear gradually, through experience. The employer will never dismiss an employee but will lower his wages if the productivity observed in the course of employment proves lower than he expected. This is an incentive to the employee to leave since he can obtain better wages elsewhere.

On the basis of these theoretical examples, it might seem misleading to describe a labour market structure based on a dualist view of segmentation. The two forms of mobility (internal and external) and the special case of stability within an enterprise and a job, may derive from strategies that are far more complex than a simple differentiation of jobs by the level of human capital required. In other words the human capital can be upgraded (in terms of pay, maintenance and improvement through continuing training), but that does not necessarily reflect the intrinsic characteristics of the jobs but rather the particular strategies of the firms and employees. Whatever their forms of mobility, the employees can draw on the same stock of human capital. More surprisingly, stability in a job without promotion can be a sign that there is little

[4] Davis (1993) describes a process of random matching between employers and employees where the two sides make specific investments prior to encountering eachother.

[5] This approach is in fact based on a more competitive equilibrium than that of Davis (1993). Jobseekers may meet other employers at no cost, supposing that the latter have more information at their disposal to assess their employees' productive capacity and that the market only looks at jobs that are filled and at promotions.

493

chance of upgrading the human capital and of the risks of unemployment in face of an external market constantly disturbed by employees who offer the most sought-after qualifications. Similarly, the differentiation between individuals who are mobile internally or externally would reflect not so much the level of human capital as the qualifications specific to different jobs.

1.2.3.3 Mobility mechanisms and their effects in the dualist version of segmentation: negative feedback effects

According to the dualist version of the segmentation theory (Doeringer and Piore 1971; Dickens and Lang 1985, 1987; Taubman and Wachter 1986), the way the labour market structure functions explains the barriers to entry to jobs in the primary sector, which lead to a segmentation of the market in the long term.

It is because the labour market operates in a manner that discriminates against young people and the most fragile social groups in western societies that the diagnoses that can be derived from the dualist version of segmentation become meaningful. Many economists and observers believe that the revival of sustained growth will not generate worthwhile jobs for the population group moving within a circle of insecurity (laid off, unemployed, low-skilled jobs, etc.). This group has not adequately maintained or applied its knowledge and skills over the long term, while the revival of growth will necessarily have to draw on workers with the appropriate skills and who can be mobilised immediately. Given this situation, the idea of introducing measures to help them enter working life has to be considered. These measures are aimed at limiting the destruction of the human capital of young people entering the labour market and adapting that capital, so as to avoid the risk of the revival of growth very quickly losing its momentum.

Yet these measures aimed at young people make up part of the complexity of the general pattern because they contribute to creating a multitude of intermediate positions on the labour market in which young people find themselves, quite apart from the types of work that are a natural result of the employment crisis, such as part-time jobs and temporary and fixed-term contracts. If we add to that the fact that the rise in the general training level creates problems of downgrading at the moment of hiring and possibly difficulties in relation to career management and wage scales, it is easy to understand why, as far as we know at present, the benefits of these integration measures remain questionable.

The approach to the concept of dualism in terms of 'negative feedback effects' is original not so much in that it recognises the differentiations between types of jobs and categories of workers or that categories in an inferior position are mainly found in 'bad jobs', but because it recognises the existence of barriers that make it difficult for workers from the secondary sector to gain access to the internal labour markets of the primary sector. These barriers become stronger over time. This explains why the dualist structure of the market has recurred from one period to another. Hence the need to use longitudinal data to take account of wage movements on the labour market (Favereau et al. 1991). Yet, even if we share this view, we must note that to design a test based on longitudinal data that can show that these barriers exist poses delicate and at times insoluble problems of specification and assessment from the outset.

In general, we can list three approaches that help explain this dualism. They are radically different from the alternative proposals of, for instance, match models. The first consists of studying the method of operation of internal labour markets (Taubman and Wachter 1986; Wachter and Wright 1990). The second is to study the secondary sector and the permanent effects to which the individual is exposed as he moves through that sector: the negative feedback effects (Taubman and Wachter 1986). The third combines the first two. On the basis of the hypotheses about the *training-wages* relationship in the two segments, it sets up system transformation models to show that the wages-formation mechanisms are different; one is sensitive to the accumulation of human capital while the other is not.

In Annex 1 we summarise the main advances in research and the difficulties and ambiguities involved in testing the segmentation hypothesis.

The concept of negative feedback effects may help explain the ex-post allocation of the workforce and the phenomenon of barriers to entry to quality jobs. These feedback effects refer to the relationship between an individual's first experience on the labour market and his most recent observed behaviour. This theory is fundamentally empirico-deductive.

The existence of the barriers is a response to the argument put forward under the theory of human capital that secondary sector workers can gain access to stable and well-paid jobs by improving their stock of human capital. In the view of Berger and Piore (1980), the programmes of aid to integration are an inadequate means of removing these barriers. They believe a more effective solution would be to pursue policies of income support for secondary sector workers in order to stabilise the global demand of an economy and prevent its extension[6].

The barriers in question are endogenous; they are created by the existence of the secondary sector and reflect the negative feedback effects on it. These effects relate to a causality whose mechanism operates in the sense of 'Bad jobs → Bad worker'[7]: unstable jobs are bound to lower the qualification of the workers. Since jobs are rationed in the primary sector, enterprises hire those workers in the queue who do not send out negative signals about their qualifications.

The secondary sector does not reward human capital and does not give the workers access to training or to occupational experience that can be transferred or is recognised on the labour market. The wage level is low and not very sensitive to the acquisition of human capital. If an individual has begun by taking jobs offered in this sector, he is more likely to end up in an insecure work situation.

In the end, workers who are 'trapped' in jobs in this sector from the start of their working life can never catch up with workers in the primary sector, in terms of wages or qualifications.

Yet we have no model available for determining the level of occupational or wage mobility that is compatible with the hypothesis of the theory of human capital or that of segmentation. In most cases, we have to operate on the basis of approximations or 'common sense'.

In general, it is very difficult to test the feedback effects in a rigorous manner.

To understand this mechanism we must first assume that individuals change their utility function in line with the changes in their constraints.

Yet we can put forward a hypothesis that is much easier to test. It is based on the fact that an individual's utility function depends, at a later stage, on his experience on the labour market. In econometric terms, that means testing the existence of a state of dependence: the situation of an individual, at a given moment, can be explained by his past situations.

We then assume that experience has long-term effects. Adopting that point of view, Taubman and Wachter (1986) consider that the human capital model can be interpreted as a model of feedback effects. For like any other durable goods, the introduction of human capital in a model implies that past events influence present behaviour. Yet it remains very difficult to identify, on a separate basis, the effect of human capital as such, especially if it does not take a very explicit (e.g. exponential) form, and the feedback effects implied by the passage from job to job.

Very broadly speaking, we could regard a negative feedback effect as reflecting a situa-

[6] We must not forget that according to this theory the existence of insecure jobs is explained by the instability of global economic demand.

[7] Although the literature is fairly explicit about the play of the chain of cause and effect in the secondary system, that is less true of the causality of 'Good Jobs → Good Worker' in the primary sector.

tion in which an individual is considered to have accumulated human capital (an insecure job, an integration measure) which is, however, offset by a negative impact on his wages or worsens his chances of finding a 'good quality' job.

This makes it clear in the end that the object of the dualist approach to segmentation is to ask how occupational experience is built up over time, how it accompanies, improves and/or lowers the level of initial training. So from a strictly econometric point of view, we could say that this approach assumes a dependent state as opposed to individual heterogeneity. In this light, the appropriate longitudinal approach becomes an essential means of modelling[8].

Yet very few empirical studies have been undertaken in this area to evaluate the validity of dualism and look at the origins and consequences of the mobility phenomena at the beginning of working life.

1.2.3.4 De facto dualism: selected findings from French data

Certain studies noting that young people have tended to have longer-term job stability in France in recent years adopt the approach described earlier. They posit that integration can be defined as a process that is explained by the complex two-way influence between the observed and non-observed initial human capital and the jobs performed on the labour market (Balsan et al. 1994; Balsan et al. 1996; Eckert and Hanchane 1997).

Certain findings, for example, show that 'investment' in an integration measure does not imply additional wage benefits. The integration aids cannot be distinguished from the other situations (unemployment, non-employment, national service) in terms of their effects on wages. They only enable a minority of individuals to increase their wages: trainees and those who obtained higher pay than their reference wages. The only way to obtain higher wages is to return to studying. As a general rule, therefore, the end result probably conflicts with the objectives of youth employment policy. The measures create negative feedback effects and help strengthen the barriers to 'good jobs'. Lastly, they act as a second filter, underpinning the filter created by the educational system. So it is justified to ask about the real significance of these integration measures in the present French labour market situation. Some studies (Verdier 1996) ask whether state intervention has not simply been balanced out by the consolidation of a dualism whose victims are young people supported by integration aids, especially non-market measures.

Contrary to some findings in the early 1990s which tended to focus on the central role of real experience on the labour market rather than the initial diploma and specialised training in France, these studies show that the variables in relation to the initial conditions, i.e. in particular the training level and diploma and any specialised training, cannot be disregarded in favour of the variables of acquired experience as an explanation of having a job, even up to six years after leaving school.

The general conclusion is that adjusting the labour market or, inversely, adjusting young people to the labour market is not the only solution. Although this is not really surprising, the solution seems to lie in a compromise between initial training and job preparation.

2. Decline in the effect of seniority, new external market patterns or crisis in the French internal labour market

However interesting the above findings may seem, we must point out that another body of literature shows that the interpretation of a dualist labour market structure according to the general theory put forward by Doeringer and Piore (1971) is no longer self-evident and

[8] In our view, an appropriate longitudinal approach is one based on individual and temporal data and that uses methods that can identify the effect of this dual dimension in order to identify more clearly the parameters of interest of a given model.

indeed seems totally fallacious. Let us briefly emphasise firstly that stability in a job without promotion can indicate that there is little chance of upgrading the human capital and that there is a risk of unemployment faced with an external market disturbed by the constant movement of employees offering the most sought-after qualifications. Secondly, this interpretation partly reflects the crisis in the French internal labour market, which is reflected by a fall in the returns for seniority.

Contrary to the views of Doeringer and Piore, who explained the existence of internal labour markets by emphasising that they were of mutual economic and social advantage to employees and enterprises, we can note that, in the case of France, this way of regulating the wage relationship resembles what Kerr regarded as the formation of monopolies that ought to be controlled by the public authorities for the greater benefit of society as a whole.

Contrary to the analyses by Doeringer and Piore (1971)[9], the way the French internal labour market currently regulates the wage relationship is ineffectual to say the least. Verdier (1996) shows that the high rate of closure of enterprises that hire young people can be explained by the fact that the social partners share the desire to protect the 'insiders' who are vulnerable because their qualifications are often poor and too specific; they leave it to the state to combat youth unemployment, for instance through integration measures. Moreover, when French internal labour markets open up, it is largely to hire holders of higher education diplomas, while at the same time increasingly downgrading them, which reduces the promotion chances of employees with a lower level of qualification.

Recent econometric and comparative findings support this view.

Indeed the results of certain multi-sectoral models show that one of the first lessons one can draw from this is that a dualist representation of the labour market (e.g. internal and external mobility) would not have managed adequately to control all the selection biases (Hanchane and Joutard 1998) and therefore drastically reduces the manifest heterogeneity of the labour market.

As a sign of the transformation of the French internal labour market, these works also show that we could admit a market segmentation totally opposed to the one proposed by the theories of Doeringer and Piore (1971) or Dickens and Lang (1985, 1987). The lowest returns on diplomas are situated in the segment that probably comes under what theory describes as the 'internal mobility and continuing training' internal labour market.

That would mean accepting a totally counter-intuitive segmentation: the job segment nearest to the secondary market (external mobility without continuing training) produces higher educational returns than the job segment close to an internal labour market (internal mobility and continuing training).

The most marked result is that even in systems characterised by internal mobility, seniority is no longer a significant factor. That is exactly the same result found by Beret (1992) and by Goux and Maurin (1994) based on different samples and without distinction between job segments[10].

However fragile, these first results illustrate the consequences of certain changes and specific features of the French labour market compared with that of other industrialised countries.

After all, the hypotheses on which the tests are based are founded on institutional research that is limited in time and space. Some

[9] See Marsden (1989) for detailed theoretical analyses to this effect.

[10] The classical argument that the human capital variables are endogenous can be put forward to interpret this result. Non-observable characteristics can explain why some employees, in some segments, are both better paid and have seniority in their enterprises. That results in the effect of seniority being poorly measured and not identified (Goux and Maurin 1994).

French economists therefore consider it unjustified to discuss the way the French labour market works on the basis of Anglo-Saxon concepts of segmentation.

In fact, the empirical features noted in regard to the various segments of the French labour market and the decline in the effect of seniority in some of them confirm the relevance of analyses deriving from studies that lay emphasis on the complex reorganisation of the labour market. It is reflected by a blockage and a crisis in the internal labour markets on the one hand, together with an intensification of the movements and patterns emerging on the external market on the other (Beret 1992; Maurice et al. 1982; Silvestre 1986; Verdier 1996).

All these works, often based on international comparisons, show that the French qualificational space (or occupational space)[11] has been built around close links between the workers and their job. This structure is the result of systems of classification that mark out the pathways that are internal or external to the enterprises (Silvestre 1986). According to this pattern, the workforce was characterised more by a huge absence of training, in particular vocational training, which therefore gave more value to the skills produced by the enterprises themselves and acquired within them. Meanwhile the crisis was to 'disrupt' the way the labour market functions. That is reflected in the rigidity of the French internal labour markets, which do not have the institutional mechanisms or forms that would allow them to redeploy more effectively. Beret (1992) shows that in this new context, seniority will increase while its returns will fall, or become zero, in terms of access to the most qualified jobs and of wages, while the external market seems to be becoming the site of the most efficient strategies for workers who have achieved a minimum investment at school. These trends suggest that the French labour market is going through a period of profound restructuring. Beret (1992) distinguishes three cases:

- the emergence of an external market that enhances the value of some individuals.
- the existence of an internal labour market that is positive in terms of wages and that requires experience and/or training according to the productive changes resulting from technical changes.
- an internal labour market that survives despite wages that are not improving. This type of segment was also identified by Silvestre (1986). He treats it as a body of fixed employees whose internal mobility and sustained efforts at continuing training have not yet fundamentally changed their behaviour.

So unlike the standard definitions of dualism, in the end and under these conditions external mobility appears as a specific characteristic of unqualified workers in a secondary segment of the French labour market. Wage rises based on seniority will tend to disappear in favour of rises related to external mobility (hiring experienced workers, recruitment of young trainees), in contrast to the way the internal labour markets were regulated during the 1960s and 1970s (Verdier, 1996). This trend will continue to mark occupational labour markets which, over and above initial training, will also attach more value to the individual's *acquis* in terms of experience and continuing training.

In that sense, this situation does not conflict with the predictions of models based on different basic assumptions and hypotheses. Long seniority in a given job may send out a bad signal about the promotion possibilities of employees outside their enterprises (Waldman 1984). In this model, the most externally mobile individuals are those whose qualifications are most sought after on the market. This analysis supports other results

[11] In these studies, the principles governing the progress of mobility (initial or continuing training; vocational or general training; changes of enterprise or rotation between tasks; progression from job to job or recognition of status, etc.) are based on a set of rules (written or not) which, when applied repeatedly, define the lines of force of what the authors propose calling the 'occupational space' or 'qualificational space'. This definition is taken from Silvestre (1986, p. 55).

obtained from French data (Balsan et al. 1996); Hanchane and Joutard 1998; Béret 1992).

Béret (1992) shows, in *Enquêtes Emploi* 1984-1987, that promotions are more frequent on the external than the internal labour market. Moreover, Balsan, Hanchane and Werquin (1996) draw on the same survey to show that higher wages are an incentive for employees already in work to seek another job.

Other observations fuel the debate surrounding the current poor performance of the French internal labour market.

In fact, regardless of the symbolic importance of a diploma in French society, the recent phenomenon of accentuated pursuit of higher education studies would have had a disastrous effect according to the analysis grid set out here. In using it, Verdier (1996) notes that the wish to protect employees who have little initial training and occupy jobs in traditional French internal labour markets explains why the adjustments that have occurred on the labour market in recent years could only be mechanical; they relate to the peripheral market area, namely young people. That makes it easy to understand the phenomenon of 'the selective exclusion' of young people, which gives rise to an accentuated pursuit of further studies to minimise the damage caused by downgrading on hiring, against which even young people leaving higher education are no longer protected.

3. Organisational principles of the wage relationship: specific institutional features, rules on manpower management, mobility and training

The literature incorporating international comparisons regards the forms taken by the wage relationship in given societies as generally based on rules, which are very rarely reversible and whose development dynamic is sensitive to the particular forms of the organisation of employment and training systems.

If they ignore that fact, public policies concerned with the training-employment relationship will often be less effective.

Thus Eyraud, Marsden and Silvestre (1990) rightly note that for a long time, and in a generally systematic manner, it was thought that the various countries' economic institutions would converge towards a common model when they faced analogous problems arising from economic development and technical change. In many cases and at precise moments in history, economic policies introduce intervention measures based on a quasi-universal view of the world which underestimates the specific institutional features of the societies in question.

An example in point is the French situation in the 1980s. During that period, the state hesitated between three policy lines which are difficult to reconcile (Verdier 1995) and took very little account of the specific patterns and developments of the internal/external markets or more generally of the training-employment relationship.

1. The first is the German approach, which seeks to enhance the value of vocational education and training and promote linked work and training schemes. In France, the possibility for holders of the CAP (vocational training certificate) and the BEP (technical school certificate) to extend their studies until they obtain a vocational baccalaureat enhances the value of vocational training while at the same time doing it a disservice by keeping it symbolically dependent vis à vis the more general courses.

2. The second is the Japanese policy of developing general training while leaving it up to the enterprises to adapt the workforce to technological and organisational changes. A typical objective under this approach is for 80% of a same age group to reach baccalaureat level.

3. The third is the British policy of lowering wage costs. Public aids and rules on recruitment specific to young people make it possible to reduce wage costs and contain only

limited undertakings on the part of the enterprises to provide vocational training.

Moreover, important reforms such as the greater focus on vocational secondary education (introduction of vocational baccalaureats) have not in the end affected or transformed the structure of the training-employment relationship in some countries, for the reasons set out above. Looking at the situation in France in the same context as that in the USA, Buechteman and Soloff (1995) consider that in this respect vocational baccalaureats were introduced partly with the aim of making up for the shortage of intermediate skills, on the basis of a sound hypothesis about the structural organisational and technological changes during the 1980s. But they point out that the persistence of internal training and promotion structures has led employers to continue giving preference to the traditional diplomas rather than to vocational certificates under their recruitment and promotion policy. This approach devalued the vocational skills and qualifications obtained under these new programmes. Before pursuing this discussion, we must specify the foundations of the thesis we will be putting forward as a grid for interpreting the different national situations. This approach, inspired by Silvestre's work, consists in abandoning the idea of the chronological priority of the act of education and training in relation to the act of production. Instead, we should build a 'circular causality' between the construction of jobs and qualifications on the one hand and the structuring of the educational and training system on the other. This theoretical assumption helped underline the diversity of the European countries' labour market responses to the crisis in the 1980s and more recently (Freyssinet 1990).

In the following we will focus our discussion on three aspects in order to describe the situation in Germany, France and the United Kingdom. We believe it is essential to give a detailed definition of the dominant forms of the wage relationship in these three societies, namely the internal labour markets and the occupational labour markets. Secondly, we will describe the organisation and promotion of initial vocational training and continuing training and indicate the demarcation lines. That will then enable us to discuss in detail the principles governing the systems of mobility, recruitment or integration at the beginning of working life in these three countries.

3.1 Institutions and labour markets: between occupational labour markets and internal labour markets

3.1.1 Comparison between France and Germany

Among the early research work on which the two current models of the labour market are based, we can cite the research undertaken by Maurice, Sellier and Silvestre (1982) on the societal effect (Lallement 1999; Marsden 1989; Verdier 1996). The authors point out that in France the ratio of managerial staff is relatively higher than in Germany, while the wage gaps in industry between unskilled workers and managerial staff are much wider. This situation conflicts with the elementary rules of liberal economic theory. The scarcity of German managerial staff should in fact lead to higher wages.

In an attempt to clarify this paradox, the authors move away from the sociology of organisations and neo-classical economic analysis to show that the management of the wage relationship is determined more by institutional factors that vary by country and are closely linked to the system of vocational training, the organisation of qualified work, the collective rules governing the workplace and the structure of authority within the enterprise.

They then identify two forms of labour market – the internal and the occupational labour market – which they see as supporting their interpretation of the observed phenomena.

The existence of internal labour markets in France explains why the enterprises have so much influence on training and job management. That is the only justification for the decision to opt for a high ratio of managerial staff. To that must be added a second characteristic, to which we referred earlier and which is linked

to the organisation of work: the close link between the individual and his job.

The situation in Germany is different. Vocational training, in fact the dual system, is a channel used by many more employees in Germany than in France. Employment is defined on the basis of qualification and the wage relationship tends largely to be governed by the occupational labour market. Moreover, vocational training is a means of making the qualified workers more homogeneous. The result, therefore, is greater polyvalence than in France, which reduces the managerial staff's workload, promotes cooperation between employees and adequately explains the observed wage gap.

Two systems of recognition of qualifications could therefore be identified. The German system based predominantly on efficiency and performance differs from the French system which is based mainly on seniority. That means that in Germany, vocational training diplomas remain the essential criteria for qualification, whereas in France the duration of service in an enterprise determines promotion.

Earlier on we pointed out that the French system – the internal labour market – is currently being destabilised, largely because seniority is becoming a less determining factor, while the German system remains effective. Inspite of the attempts to give a stronger vocational focus to higher education in France, some current research still shows that the German system is more able to reduce the level of uncertainty.

In a kind of extension to this approach, Möbus and Verdier (1999) take a new look at the debate and the findings. They compare France and Germany and consider the foundations of the policies for the development of vocational training in relation to the rules governing the operation of the labour market and the acquisition of qualifications in the two countries.

They base their arguments on the example of the vocational diploma. This diploma, the product of a social bargaining process and a basis for regulating the labour market, differs radically in nature from one side of the Rhine to the other: basically, it is a labour market organisation rule in Germany (Reynaud 1987), while in France it is a signal of enhanced labour market value. This difference helps explain the predominance on the two sides of the Rhine of two means of constructing the labour market and, more broadly, the training-employment relationship. In Germany the occupational labour market system is based on transferable qualifications (Marsden 1989), while in France it is marked by internal labour markets that are traditionally based on specific qualifications acquired over the long term through seniority (Eyraud et al. 1990). The reforms undertaken in France in the 1980s were indeed reflected in the creation of new initial training schemes, such as the vocational baccalaureats, and the development of higher-level technical training, such as the vocational training certificate (BTS) and the technical college diploma (DUT), but the impact of these changes depended very much on the structural situation in the country. Although youth training has acquired a more vocational focus in France, it tends to produce skills that are only potentially usable (Möbus and Sevestre 1991), while in Germany training remains directed at building up skills validated prior to entry into the enterprise as an ordinary worker. In short, this difference between a system of signals that govern the competition for access to employment (Thurow 1975) and a system of rules on the organisation of the (vocational) labour market applies across the board in any Franco-German comparison.

3.1.2 Comparison between France and the United Kingdom

The United Kingdom is another example of a occupational labour market. Many research works have identified the way the UK market works and studied the various means of regulating employment there (Eyraud et al. 1990; Freyssinet 1990; Garonna and Ryan 1989; Lefresne 1998; Marsden and Ryan 1990; Moncel 1998).

The UK system is described as making it possible to acquire a qualification at the begin-

ning of working life; the apprenticeship system is often described as an example. An apprenticeship gives the worker a qualification that is valid beyond the confines of the enterprise and explains why the British apprentice has greater chances of promotion than his French counterpart.

Surveys conducted in the 1980s and referred to by Eyraud, Marsden and Silvestre (1990) show that in the private sector of the manufacturing industry, three times as many qualified workers were recruited from the external sector as from within the enterprise.

During the same period, a totally different approach was taken in France, and one which became even more accentuated according to the findings of our earlier analyses. In France, educational training has to be accompanied by practical experience that is expensive and generally paid for by the employers. So the employers prefer to hire qualified young workers for low-paid jobs in small enterprises, rather than recruiting them, as adults, for less qualified jobs, but with the possibility of promotion at a later date (Germe 1986). And as we have seen, it is often difficult for enterprises in an internal labour market to recruit workers for qualified jobs directly from the external market while the existing workers have gained access to these jobs through internal mobility channels.

This makes it easier to identify the current procedures for recruiting young workers in France (Verdier 1996) and the national pathways of worker integration in the two countries (Freyssinet 1990; Moncel 1999).

In the 1980s, as it still is to some extent today, France has been described as a country in which young people tended to be selected on the basis of their level of diploma, obtained through a school education system with little focus on the vocational aspect but strongly marked by the principles of mobility imposed by the internal labour markets system: advancement towards seniority.

The United Kingdom has been described as a country where young people have easier access to the various levels of qualification through apprenticeship and can then rise within the occupational labour markets thanks to their vocational certificates.

We should not forget that the British apprenticeship system and rules on the wage relationship have changed radically since the break in 1979. In 1980 the government introduced the youth training scheme (YTS) – a vocational integration system – open to all young school-leavers at the age of 16. In 1990 Freyssinet wondered whether the apprenticeship system was in danger of coming to an end in the UK. This scheme is a radical break with the earlier system. In the main, it reduces the opportunities for long-term training leading to recognised qualifications, replacing them by short-term modular training schemes that vary according to the individual and lead to no recognised qualification (Freyssinet, 1990).

In the following we will discuss the recent changes in the labour markets of the three countries following the various reforms introduced by the public authorities and the way the players involved have reacted to the crisis.

After these examples that clarify the specific features of the wage relationship, we will conclude by defining the concept of the occupational labour market and broadly outline the features that demarcate it from the internal labour market discussed above.

3.1.3 The concept of the occupational labour market

In view of the above developments, it is clear that the occupational labour market contains certain features that make it a kind of public good (Marsden 1989).

We can list at least two of these features. The first is the establishment of quality standards in relation to the combination of acquired abilities and the level achieved by individuals trained for a given occupation. The second is that there is a certain uniformity of job content from one enterprise to another. These are the two features that ensure that qualifications are transferable.

Table 1: Distinctive features of the occupational labour market and the internal labour market

Function	Occupational labour market	Internal labour market
Training	Apprenticeship	Experience gained in the enterprise
Nature of continuing training	Standardised according to the rules of the trade	Non-standardised, specific to the enterprise concerned
Transferability of qualification	At trade level	At enterprise level
Seniority	No recognised role in the acquisition of the qualification or the level of pay	Strong influence on the acquisition of the qualification and the level of pay
Level of qualification in the event of change of enterprise	Maintenance of the qualification level	Downgrading
Control over the content of the work	Based on protection of the trade	Based on a system of rules applicable to all employees of the enterprise (e.g. system of classification)
Organisation of the workers	Based on the trade	Based on the enterprise and the branch of activity
Main object of the negotiations on flexibility	Demarcation rules between jobs	General rules applicable to the entire workforce

Source: Eyraud, Marsden and Silvestre 1990.

Consequently, unlike the situation in internal labour markets, the two parties in the wage relationship are less likely to face the risk of informational asymmetry or the adverse effects of non-fulfilment of the employment contract.

Employers wanting to recruit qualified workers from occupational labour markets must generally offer jobs whose content complies with the norm, so that these new recruits can integrate with the other workers. If enterprises offer jobs whose content is not consistent with the qualification of the recruited worker, they will have to provide additional training or under-use the worker's knowledge. But thanks to the fact that it is now easier to transfer qualifications and given that workers now have more chance of keeping up their knowledge through occupational practice, they are more likely to find the kind of jobs for which they were trained.

A new market, the occupational labour market, is now replacing the complex mechanisms of constant arbitration between recourse to the internal and/or external markets. The enterprises can now directly recruit the workforce that corresponds to the qualifications they need from that market. Moreover, the employees can find the training they need in order to gain access to that market, even if certain recent events suggest that the observed barriers to access to the internal labour markets, in France for example, can be as great as those observed in the case of access to apprenticeship and therefore to the occupational labour markets. These markets are considered to be stronger in the United Kingdom than in Germany.

All these features would justify adopting the concept of a public good to define these occupational labour markets. In a society where the workers have the right to change employer, the adoption of a qualification standard means that it is difficult to prevent a given enterprise from having access to the market. In the long term, the standardisation of the system of qualification leads to a better distribution of the fixed costs of regulating the wage relationship. As we saw earlier, the scale of the fixed costs, the irrecoverable costs, is a constant of internal labour markets and could in many ways explain why there are certain blockages in these markets in France.

The reader may refer to Marsden (1989) or to Eyraud, Marsden and Silvestre (1990) for a more detailed description of the other characteristics of occupational labour markets and the features that distinguish them from internal labour markets (Table 1).

Lastly, we may note that the dominant type of labour market tends to have two central characteristics, which we shall describe and analyse below on the basis of their recent configurations in the three countries. These are the systems of training and mobility.

4. The new relationship with vocational training in the internal labour markets and the occupational labour markets

Vocational training, which forms the basis of mobility systems in the three countries, has undergone changes that are likely to modify the broad principles of workforce management in the three countries. There is a body of research to support this argument, of which we shall present the main lines.

In his endeavour to classify and identify the training systems that exist today, Greinert (1997) draws attention to the fact that these systems are variants and/or combinations that are difficult to pinpoint in any pure form.

Referring back to Max Weber's sociology of power, the author identifies three models of regulating vocational training: tradition, the market, and bureaucratic rationalism based on law. That enables him to define three types of training. The United Kingdom, like Japan and the USA, come under the first model (the market); France, together with Italy and Sweden come under the third (bureaucracy).

Germany comes under a mixed form of organisation, subject to both the market and bureaucracy; here we find a cooperative organisational model: the dual system. This model of a market controlled by the state applies only to the German-speaking countries.

Linked work and training forms part of the cooperative model, of which France is as an example.

On a global basis, therefore, there are three main methods of organising vocational training and promoting and managing its relationship with the labour market.

4.1 Definition of vocational training systems

In the case of the United Kingdom (the market model), vocational training derives directly from the factor of labour and the qualification signals emanating from the labour market. Its development and organisation are left in the hands of the partners directly involved in the wage relationship. The enterprises propose and provide training geared to their direct needs.

The threats hanging over means of acquiring qualifications in the United Kingdom (Freyssinet 1990) destabilised the apprenticeship system there and thus also the occupational labour markets. Faced with the employment crisis, the latter opted for policy lines totally opposed to their German counterpart. The very large-scale development of youth training schemes and training credits resulted in integration formulas devoid of any real training content (Moncel 1998).

In the case of France (bureaucratic model), vocational training is regulated by the state or the bureaucracy. This is a college-based training model. Its specificity resides in the fact that a tiered system of vocational training colleges is closely involved in the general educational system. This link-up between the two systems is also reflected in the direct links between school-leaving and vocational qualifications, which are closely correlated with wages and which often gives rise to dual qualifications: the baccalaureat certificate and the status of qualified worker. Because of its elitist organisation, this system leave little margin for manoeuvre for successful linked work and training schemes; we described this situation in France above (Möbus and Verdier 1999).

Table 2: Trend in the distribution of manpower supply flows in the dual system (Germany)

	Origin of apprentices by course or earlier training measure				Educational origin of apprentices in 1996 by sector of specialisation	
Distribution in %	1970 (a)	1985 (a)	1990 (b)	1996 (c)	Industrial and commercial sector (c)	Crafts sector (c)
Secondary General School (Hauptschule) with or without certificate	79.8	39	30.5	34.5	24.7 of which 1.5% without certificate	50.9 of which 5.2 % without certificate
Intermediate School (Realschule)	18.9	32.7	34.0	35.3	36.2	30.5
Grammar School (Gymnasium) with leaving certificate (Abitur)	1.3	10.7	16.2	15.3	22.9	5.1
Vocational training at schools, basic voc. training year, pre-voc. training year (incl. not stated)	-	17.5	19.3	14.8	13.6	10.7

Sources: a: Grando and Möbus 1988; b: BMBW 1992/93 (Grund- und Strukturdaten); c: BMBF 1997 (Grund- und Strukturdaten; East and West Germany; only new entrants to apprenticeship training).

The German case is described as the cooperative type of training model. The state more or less precisely defines the overall conditions governing the vocational training provided by the enterprises and other private sector entities. So it is a model of a market controlled by the state. One important aspect of this kind of model is that vocational training is clearly demarcated from the general, public, school training system. Vocational qualifications are defined according to the qualification profiles sought by the enterprises.

Apart from them, the state and interested groups (unions, professional associations, etc.) also have a say in defining the training objectives. The enterprises are the host structures for implementing the training measures. Nonetheless the vocational training processes must observe the standards fixed by the state.

4.2 Crisis and recent changes in vocational training systems

It has often been noted that the crisis had a strong impact on the macro-economic and macro-institutional regulatory instruments. Since they form part of these instruments, the vocational training systems have undergone changes in all three countries in recent years.

The relevant literature discusses:

- the collapse or bankruptcy of the English apprenticeship system and predicts the disappearance of the occupational labour market in the UK (Freyssinet 1990; Lefresne 1998, 1994; Moncel 1998; Campinos-Dubernet and Grando 1988);
- the crisis in the German dual system (Greinert 1997) and its confusion (Beret et al. 1997), after the period up to the mid-1980s when it exerted a strong attractive force (Möbus and Grando 1988), and the rising youth unemployment (Krais and Trommer 1995);
- the astonishing rise in France in the numbers leaving general education and in particular the development of vocational training and the appearance of new programmes in this context (the vocational

baccalaureats are often cited as an example) and the institutional inability to transform the crisis-hit internal labour markets into occupational labour markets (Beret 1992; Möbus and Verdier 1999; Hanchane and Joutard 1998; Verdier 1996).

Below, we shall briefly review the literature on the subject.

4.2.1 Crisis or confusion in the dual system?

The dual system continued to attract young Germans until the mid-1980s (Möbus and Grando 1988). This can be explained by the deterioration of the labour market in the early 1980s and the population growth in the late 1960s. The increased competition for entry to the labour market helped raise the apprentices' general level of skills, evaluated on the basis of the trend in manpower supply flows (Table 2). This trend in the level of the apprentices' general skills led to a redefinition of the duties assigned by the enterprises (Beret et al. 1997).

This first disruption was accompanied by worsening employment conditions for the holders of dual system certificates, who tended more and more to occupy non or semi-qualified posts; according to Tessaring (1993) the proportion rose from 25% to 30%. Moreover, the broader supply of training places, which was intended to contain the inflow of demand in the first half of the 1980s, was reflected in a fall in the wage returns of the dual certificate (Buttler and Tessaring 1995, quoted by Beret et al. 1997).

During the 1990s this situation resulted in what is now often termed the crisis in the dual system. The number of dual system diploma holders began to fall from 1987 (Table 3). The worsening labour market, the poor chances of occupational promotion and the growing number of higher education leavers (Table 4) are some of the factors that explain this situation.

The pursuit of long educational courses of study reflects a family's decision to give their

Table 3: Trend in the number of diploma holders leaving the dual system and rate of transition to unemployment (Germany)

Year	Number of diploma holders in December (in thousands)	Probability of certificate holders experiencing unemployment (%)
1986	675.0	14.0
1987	680.1	14.2
1988	643.1	13.6
1989	601.6	12.9
1990	531.6	11.8
1991	498.3	12.1
1992	453.6	12.6
1993	443.4	17.1
1994	436.5	•
1995	409.8	•
1996	390.2	•

Sources: 1986-1993: IAB (in Zedler 1994); 1994-96: BMBF 1997

Table 4: Trend in the flows of higher education leavers (Germany)

Original course	1960 (a)	1970 (b)	1985 (b)	1990 (a)
Hauptschule with or without certificate	73.0	62.6	37.9	31.2
Completion of Realschule	18.2	25.6	33.2	35.0
Gymnasium with Abitur	8.8	11.8	29.0	33.8

Sources: a: Grando and Möbus 1988; b: Drexel 1993.

children a wider choice and more options (Schober and Tessaring 1993, quoted by Beret et al. 1997).

So the dual diploma is perceived less and less as a final diploma. Instead it is becoming an asset for the pursuit of higher education studies while at the same time providing the reassurance of a qualification recognised on the labour market in the event of failure.

Greinert (1997) lists specific structural factors that lead enterprises to leave the dual system. The volume of production work is falling and the German labour market now contains an adequate number of candidates from higher education or vocational colleges whose adaptation to the world of work can be achieved at modest cost. We shall see how this opportunistic behaviour, at a time when training levels were rising, became increasingly widespread during the 1990s and produced one of the most marked phenomena in the wage relationship in France today, namely downgrading.

Another essential factor for understanding the crisis in the dual system is the greater focus on selection and competition (Möbus and Verdier 1999). This is reflected in the rising rate of disruption. Greinert (1997) believes that as the dual system lost its main function of qualifying the most talented young people, the internal processes of replacement and selection gained pace. For example, today baccalaureat holders tend to fill the interesting training jobs in the commercial sector and the services sector; the jobs they leave vacant are then filled by college leavers. These barriers are a source of frustration, which could explain the rate of disruption.

Perhaps it is a little soon at this point to assume that the occupational labour markets will resist this to a greater or lesser extent, but there have been enough observations pointing out that the German vocational training system will tend to be organised on the basis of merit. The risk of a shortage of qualified manpower may seriously damage the very foundations of the rules governing the wage relationship in Germany (Beret et al. 1997; Krais and Trommer 1995; Möbus and Verdier 1999; Greinert 1997).

Let us also point out that various research works (Lutz 1993; Streeck 1989), which are based on a very detailed analysis of the enterprises' human resources policies (Drexel 1992), underline the mutually reinforcing effect of the various training institutions and the labour market; that guarantees strong initial vocational training for young Germans, in which the enterprises are closely involved on a stable basis, together with open access to continuing training, based both on individual initiative and on support from the enterprises. The relative stability of the dual system could therefore be explained partly by the strength of the 'German style' system of professional, the density and coherence of the professional organisations of employers and the role of the employees' organisations. An examination of the 'critical periods', when severe staffing cuts go hand in hand with rising unemployment, shows that a compromise was often found, without resorting to binding public rules, to guarantee that new trainees could enter the market. The social compromise would in some way involve maintaining this system for young people and would shift the unemployment risk to other categories. Kern (1993) puts forward the same type of argument regarding the importance of institutional factors: the characteristics of the vocational training system, the role of industrial relations, the scale and density of the networks interlinking the firms (e.g. contractor/subcontractor). To that list he adds the regulatory role played by the German state.

Yet two important questions must be considered.

The first (Lutz and Boyer 1992; Kern and Schumann 1984) concerns the internal segmentation, during the apprenticeship and on the labour market. The 'internalised vocational' markets are mainly responsible for defining the policies of German enterprises, but secondary forms of segmentation exist. The apprenticeship is in fact divided into several segments that do not all have the same social value. A part of this apprenticeship (especially in small enterprises) also provides poorly or averagely qualified manpower for the large enterprises. So secondary markets do exist, side by side with highly institution-

alised forms of 'primary' markets. An examination of enterprise reorganisation policies (Kern and Schumann 1984) would speak in favour of certain 'primary' sectors moving in a flexible and positive direction (but probably at the price of losing some of the characteristics of the trade in question) but also of the maintenance or development of certain 'secondary' sectors. If the gap between these two sectors widened, that could weaken the internal coherence of the apprenticeship system, by encouraging a more open division by levels (of training), which would accentuate family strategies of seeking a better apprenticeship or longer studies for their children.

The second question, posed in particular by Lutz (1993), concerns the adaptation/adjustment of the internal labour markets system to the new requirements of flexibility. He believes we should not confine ourselves to the opposition between supposedly rigid internal labour markets (ILMs) and deregulated markets. Instead the problem is how to adapt the rules of these labour markets (and the enterprises' methods of human resources management that obey these rules) to the new conditions of work organisation and internal flexibility within enterprises. This relates to the organisation 'by trades' of the apprenticeship and to the division of labour. If more emphasis is put on multi-disciplinary skills, if the trade loses some of its identity, other forms of division must then be invented within the apprenticeship. Moreover, if mobility becomes transversal rather than vertical (Drexel 1992), this may interfere with the traditional vertical promotion pathways and make the dual system less attractive. That would create a need for internal adaptations (to the apprenticeship policies, to the firms' continuing training policies and the recognition of that training) in order to encourage the system to move towards 'flexible regulation'.

4.2.2 The failure of apprenticeship in the United Kingdom and the disappearance of the occupational labour market

In the course of German history, apprenticeship has appeared as an institution based on consensus, whereas in the United Kingdom it is one of the instruments on which the trade unions depended in order to strengthen their position vis à vis the employers; in its traditional form it enabled them to control the transmission of professional skills, access to the labour market as well as the division and organisation of work in the workshop (Freyssinet 1990).

By the beginning of the 1980s this system was no longer viable because of internal tensions, which worsened with the employment crisis (Lefresne 1994). There is now very good reason to believe that the occupational labour market has suffered serious damage. The introduction of new vocational training programmes for young people, launched by public authorities whose objective until recently was to marginalise the unions, runs entirely counter to the principles for regulating the occupational labour markets in the UK (Lefresne 1998).

Although the wage relationship was based on entirely different rules at least until the early 1980s, Lefresne (1998) repeats the hypothesis he put forward in 1992 regarding the convergence of the pathways for entry into working life in France and in the United Kingdom.

Under the impact of the crisis in youth employment and with a view to setting up competition rules, the government intervened directly in the field of training and launched the Youth Training Scheme (YTS) (Balchin et Ashton 1995; Lefresne 1994, 1998; Moncel 1999).

The programme is addressed to all 16-year-old school leavers. It offers one year of linked work and training with a minimum of 13 weeks of courses outside the enterprise. In 1986 the scheme was opened to 17-year-old school leavers and also offered the possibility of a second year of training.

Side by side with this scheme the state has set up a National Vocational Qualification (NVQ) system, in line with the move towards the European harmonisation of diplomas and its decision to break with the earlier apprenticeship system, which was characterised by

the acquisition of a collective occupational identity (Lefresne 1994).

By 1990 the shortage of qualifications became abundantly clear and it was to become a striking feature of the employment and training crisis in the United Kingdom. A survey found that only 33% of British workers had a recognised qualification, against 66% in Germany and 50% in France.

The government attempted to make up for this backwardness by setting up the Training Entreprises Councils (TECs) and Local Enterprise Companies (LECs)[12]. The enterprises have no financial obligation to provide continuing training and therefore de facto can more or less directly control the supply of training in order to respond to what are often short-term needs.

Because of the contradiction between setting up a national system of codified qualifications and fragmented training schemes with no long-term aims, the NVQs and SVQs are used by only a tiny number of enterprises (Lefresne 1994). Moreover, even turning the YTS into the YT (Youth Training) in 1990 in order to attract more young people to the Level II qualification proved a failure. The poor success of this measure to produce qualifications can be explained in part by the increased pursuit of further studies.

Unlike the situation in France, the youth strategy in the UK can be interpreted more as a choice between participation in education and participation in these schemes. That explains why the entry age for these schemes is lower than in France.

According to Lefresne (1998), the introduction of the Modern Apprenticeship[13] programme to train qualified workers and technicians at Level III in the NVQ system could change the way young people use these schemes and bring the system closer to the French system of linked work and training schemes.

Today it is being asked whether a process of school-based vocational training could emerge in the United Kingdom. Indeed the subject of one of the debates currently taking place in the UK is whether the development of full-time vocational training schemes, the GNVQs (General National Vocational Qualifications), would lead to the creation of genuine broadly-based vocational courses within the educational system and to the production of intermediate qualifications. Lefresne (1998) refers to the work of Ryan (1995) and Gospel (1997), who doubt whether that is likely. On the one hand there is a shortage of human and technical resources, on the other these schemes represent too radical a break with the usual means of acquiring qualifications at the workplace in the UK.

Moreover, spurred on by the process of extending the duration of initial training, manpower recruitment strategies have changed considerably, as can also be noted in France (Forgeot and Gautié 1997, or Hanchane 1998). Unlike the old apprenticeship system, the pursuit of further studies disadvantages leavers with a low level of initial training. It can be argued that a signalling system emerges in relation to recruitment behaviour. That would reduce any chances of the survival of a occupational labour market. The NVQs and the GNVQs would act more as a filter instead of as genuine programmes to build up transferable qualifications.

More generally, the controversial question (Marsden 1989) of the collapse of the 'British style' apprenticeship system is considered from a different angle by Finegold and Soskice (1988), Soskice (1991) and in other studies of the 'low skill equilibrium' thesis. On the question of enterprise recruitment and training strategies, they contrast countries (Japan, Germany...), where good links are emerging between continuing training and retraining consistent with a high added value production, with others (United Kingdom) where the

[12] These are independent structures tied by commercial contract to the ministry of employment and made up two thirds of representatives of enterprises, in particular of the largest firms, and one third of representatives from the teaching world, associations and unions.

[13] This programme makes the employment contract compulsory, unlike Youth Training, and includes an undertaking to complete the apprenticeship.

569

reverse is true. Political reasons (notably the dismantling of the apprenticeship system), institutional reasons (poor coherence and organisation of British employers), reasons connected with the financial system (e.g. the nature of relations with the banking system which gives British firms shorter-term financial profitability prospects compared with their German counterparts) tend to lead to shorter-term strategies of human resources management. These institutional determining factors lead in a sense to initial training being organised in a manner that leaves (left?) little room for vocational training, with the majority of young people leaving school very early (aged between 16 and 18) to work in poorly qualified jobs. This abundant source of cheap labour enables enterprises to compete, although mainly in medium or lower-range products and services, provided they adapt rapidly as they go along. Moreover the authors consider that the core number of firms that would like to follow different strategies is too small. That means that enterprises that would like to actively train their workforce risk seeing their workers poached, a risk they will not take.

Overall, the policies of human resources management are therefore most likely to be short term, leaving little room for the systematic development of continuing training. The findings of the CVTS surveys seem to contradict these assertions to some extent. They show the United Kingdom as a country where firms invest quite heavily in training. However, the nature of this investment tends more towards adaptation on the job (which is generally the practice for new job entrants) than towards the long-term development of transferable qualifications, which would in fact not conflict with Soskice's views. Current developments in the initial training policy in the UK, the attempts to create a system of transferable certifications based on experience, through the NVQs, could then modify the model. However, here too, Steedmann (1999) shows that in terms both of stock and of flow (young people), the characteristics of workforce training, as of recruitment policies (low discrimination in regard to the low-skilled) mean that the United Kingdom is still closer to the southern countries (e.g. Portugal) than the northern ones (see Boyd Black 1994, for a criticism of these theses, in particular on employees' commitment to their enterprise).

4.2.3 The trend in vocational training in France

In the 1960s there was little initial vocational training in France. As we have said, the internal labour markets were structured round a poorly trained workforce and the building up of qualifications and the whole machinery governing promotion was very sensitive to the build-up of experience and seniority. The 1980s saw a redirection of public training policy that could be described as quasi-structural.

After falling in the 1980s, the proportion of the GDP (gross domestic product) allocated to school and higher education rose strongly from 1989 on; it reached 4 % in 1993 and has stayed around the same level since then (3,9% in 1983, 3,4% in 1989). In 1993 this expenditure accounted for more than 20% of the national budget for the first time, to reach 21% in 1997 (DEP – Evaluation and Long-range Planning Directorate – 1997).

Over a period of less than 15 years, the proportion of a same generation reaching baccalaureat level doubled: from 34% in 1980 to 70% in 1994. Nearly two thirds of a same age group now achieved the baccalaureat. As a result the proportion of students also rose strongly. For example, nearly 33% of students leaving training courses held higher education diplomas, which meant the figure had doubled in 20 years (Béret et al. 1997).

The main characteristic of the trend in the situation of young people under the age of 25 in France in the 1980s was a very rapid fall in their rate of working activity, less than 10% between 1983 and 1991, which represents the lowest level in any of the large industrialised countries.

From 1991 on, the proportion of 17-18-year-olds in full-time education remained one of the highest in the world, nearly as high as in Germany and considerably higher than in the United Kingdom.

510

The development of initial vocational training remains one of the major features of the trend in the French system. In particular, it is marked by the spread of higher technical training, the DUT (technical college diploma) and the BTS (higher vocational training certificate), and the introduction of vocational baccalaureats.

The reason for the growth in the number of young people completing vocational and technical training lies in the decision to enhance the value of this type of education in response to supposed structural changes within the productive system (organisational changes and technological innovation). Moreover, the reform of the diploma system that began in the 1980s proved a permanent process; a great many new specialised courses were set up while others disappeared (there were 744 of them in 1997). In 1987 alone, 89 specialised courses were introduced and 112 were dropped or reformed (Kirsch, 1998).

The vocational baccalaureat was the first diploma based on alternating periods of work within the enterprise and full-time education in a training establishment. Since then, training periods within the enterprise have formed part of the BEP (technical school certificate) and BTS (higher vocational training certificate) courses. The high number of applications to enterprises has given rise to a variety of organisational problems, especially for the enterprises, whose intake capacity and in particular guidance capacity have not increased at the same rate. Moreover, they have to provide linked work and training schemes and, in particular, apprenticeships under the employment contract. In recent years there has been a tangible growth in the inflow of apprentices, thanks in particular to major financial incentives (tax reliefs, exemption from social security contributions, exemption from the apprenticeship tax). While significant, the inflow of apprentices progressing to Levels IV and upwards, introduced by the 1987 law on apprenticeship as an integral training system, remains modest (Beret et al. 1997).

Nonetheless, initial vocational training has grown, as a result of being integrated in the system of general training levels. In that respect, the large number of diploma levels in France for a same initial vocational training course (e.g. mechanical engineering) is highly symptomatic; de facto it implies that the holders of these very different levels of certificate have to compete on the labour market. The 'French style' selection method, based on school performance, still survives and constitutes a very powerful 'societal convention' whose legitimacy is rarely disputed. It guides individual and collective educational choices, with the recurrent risk of devaluing technical training, or at least a tendency to regard it as inadequate.

Accordingly, a sizeable number of young people continue to study after their technical training; the figure nearly doubled between 1984 and 1992 (from 33% to 60% for the DUT, from 20% to 39% for the BTS) with, it is true, especially in the second case, a large number of specialist training courses during a third year of study. The general trend, however, is still to reproduce the trend that emerged with the technical baccalaureat (85% continued with higher education studies towards a diploma originally designed to promote integration in the labour market), especially since the DUT, involving selective courses, attracts a great many general baccalaureat holders who want to continue their studies.

According to Béret et al. (1997), these changes virtually lead to the building up of transversal productive values – because they are based on a selectivity (signalling value) that is high enough thanks to the general level of training attained – and form part of an employment system that is largely based on the construction of productive values through the knowledge acquired in a succession of internal labour market jobs. Thus, even if recent studies have shown that the increase in education has spread to every occupation (Béduwé and Espinasse 1995), that does not imply that the rules for building up qualifications and the related wages have not changed.

Béret et al. (1997) identify three risks of the destabilisation of what used to be the prevailing link between training and the labour market:

- The French system attaches most value to abstract abilities, i.e. reflects an approach based on the level of schooling as a pathway to the baccalaureat, the first 'university' certificate that symbolises the mastery of these abilities. This level, attained by a minority (one in four) in the early 1970s, largely in non-vocational courses, could be regarded as fairly homogeneous, at least more so than the lower levels, from the point of view of the abilities it filtered. The development of vocational training, whether at baccalaureat level or in short-term higher education (together with the increasing vocational focus of second-year university studies) introduced a certain heterogeneity into general/vocational training with the emergence of transversal technical productive abilities linked to high abstract abilities.

- The differentiated use of general and technical courses, as a result of the educational options available under the system, also produces a relative heterogeneity in the type of abilities filtered for a given level (BEP –> technical and vocational baccalaureats, DUT/BTS –> second-year general or specialist university courses,...). In other words, students who had left the higher-value, general education system leading to the baccalaureat and therefore tended on average to have fewer recognised abilities, could in this way come back to that system whether or not their general abilities were structured to the productive values attached to possible subsequent or earlier technical training.

Given the value attached to this level in France, the marked rise in full-time baccalaureat-level education downgrades the lower levels, which tend to become 'residual' in terms of quality, while the higher levels reflect a complex kind of hierarchy which results from the variety of possible combinations of general/vocational education and training and the greater heterogeneity of the players' other abilities. This necessarily leads to wider disparities in skills between and within the different levels on the labour market.

5. Conclusion

Looking at this body of research work, two major groups of conclusions can be drawn, one relating to the scientific approach, the other to (public and private) training policies.

A) Limits and relevance of 'societal models'

This survey, originally meant to cover five countries, was then limited to three. That immediately brings up the question of whether these models can give an exhaustive account of the situation in all the EU countries. However controversial, the theory of societal models seems a fairly sound means of characterising the dominant methods of human resources management in the countries reviewed. But what is the position of the northern or southern European countries in terms of these models? Do they reflect a variant/adaptation of the types we have identified (e.g. should Austria and Denmark be regarded as special versions of occupational labour markets), or combinations of them, or are there other, radically different models? Several recent works, especially in the context of Leonardo (VTML 1998; CATEWE 2000, forthcoming publication) endeavour to widen our understanding of the institutional configurations of other countries, and even of the Europe of Fifteen as a whole, although focusing more on youth integration. Significant efforts will therefore have to be made in coming years to test the relevance of these approaches in a more exhaustive manner.

Another question is how to 'prove' the existence of these models. On the one hand, as we have seen, there is some controversy as to whether labour market segmentations exist. There is often little evidence of longitudinal data, within and outside the enterprises, that would make it possible to test these models reliably. In fact individual data would have to be matched with enterprise data, which is rarely feasible. Moreover, there are very few models that include stylised institutional features as variables. Most of them were developed in the field of industrial relations, but they rarely consider initial training systems or methods of continuing training.

A third question concerns the dynamic of these models. Because they try to establish ideal types and focus on the relationship between training systems, industrial relations systems and the management methods of enterprises, these models give priority to identifying structural characteristics. Most of them date back to the theories of the 1970s and their premises are based on a fairly stable world. After the series of upheavals caused by the opening up of Europe, globalisation, the major changes in training systems and the emergence of new organisational models, more emphasis should now be laid on the dynamic: the questions should now focus less on characterising the societal areas than on describing the ways in which they change (or resist).

B) In the context of training policies, what does this kind of analysis suggest?

The first suggestion relates to the current heterogeneity of the combinations between training and labour market rules. The relationship between training and mobility, training and wages, etc. takes a different form from one country to another. All the analyses emphasise the importance of a qualified workforce and therefore of training, in terms of competitiveness between firms, internal and external flexibility and combating exclusion from the labour market (Steedmann 1999, forthcoming). Moreover they all show that common trends are emerging, such as the search for greater flexibility on the internal labour markets or new training and work combinations (Delcourt and Méhaut 1995). This is consistent with some of the statements in the White Paper (European Commission 1995) (such as a new concept of the relationship between training and work), but it is not true of others. The hypotheses about a European system of individual accreditation, for example, are difficult to accept in regard to national systems that are highly regulated by diplomas or other forms of certification that have a major structural impact on industrial relations (e.g. in Germany). Similarly, even though the emphasis on the role of the individual in maintaining his skills is understandable, there have to be incentives to do so on the labour market. In France, for example, the low wage advantages currently obtained from continuing training tend to be more of a disincentive. Training policies must therefore of necessity take account of societal conditions, possibly with a view to modifying and improving them. They must be modulated on a national basis so that they can take due account of these national societal conditions.

A second suggestion, following on from the first, concerns the coherence of the relationship between training, the firms' human resources policies and the dimensions of the labour market. If it is established that this coherent relationship exists in each national framework (which, as we saw above, remains to be proved), then training policies cannot simply be isolated policies. They must, for example, have structural links with policies affecting the organisation of work (improvement in working conditions, policies on working hours); they must be mainstreamed into industrial relations policies at both enterprise and national level. However effective their training dimension may be, it can only achieve its full effect through these links. That will probably mean these policies have to be formulated with the participation of all the players on the labour market.

Annex 1.

The problem of segmentation tests: the use of earnings functions to validate the dualist hypothesis

Although observed reality shows that the labour market is segmented, there is no explicit segmentation model on the basis of which we can clearly define ways of testing this theory. Indeed the literature on segmentation contains no testable empirical hypothesis for identifying the limits between the segments or determining the appropriate number of these segments. Most of the empirical works are based on the dual version of the theory. These analyses tend to relate to the features according to which the two labour market sectors can be characterised:

- the differences in the returns on education and occupational experience between the segments – with each segment having different mechanisms for fixing wages and the theory of human capital not applying to the secondary labour market[14]; and

- the absence of mobility between them, in other words the barriers to entry to the primary sector. The negative feedback effects which make the transition through the secondary sector into an obstacle to finding a job in the higher segment are interpreted as a check on mobility.

The empirical validation of these hypotheses faces two types of methodological difficulty: how to define and determine the segments and how to apply the appropriate statistical and econometric techniques. The various analyses in fact represent a fragile empirical basis given how difficult it is to demarcate between sectors that are 'econometrically' neutral from the point of view of the phenomena to be studied. It is difficult to define this demarcation econometrically because the selection bias is another problem on top of those connected with non-observed individual heterogeneity, all of which makes the test findings even more ambiguous.

Segmentation a priori and selection bias

In the early empirical works[15], the dual hypothesis was tested by comparing two equations of wages estimations for two sub-samples of a population. Different estimations would provide empirical proof that these two labour markets exist. However, the findings of this test are distorted by the bias in the sample selection.

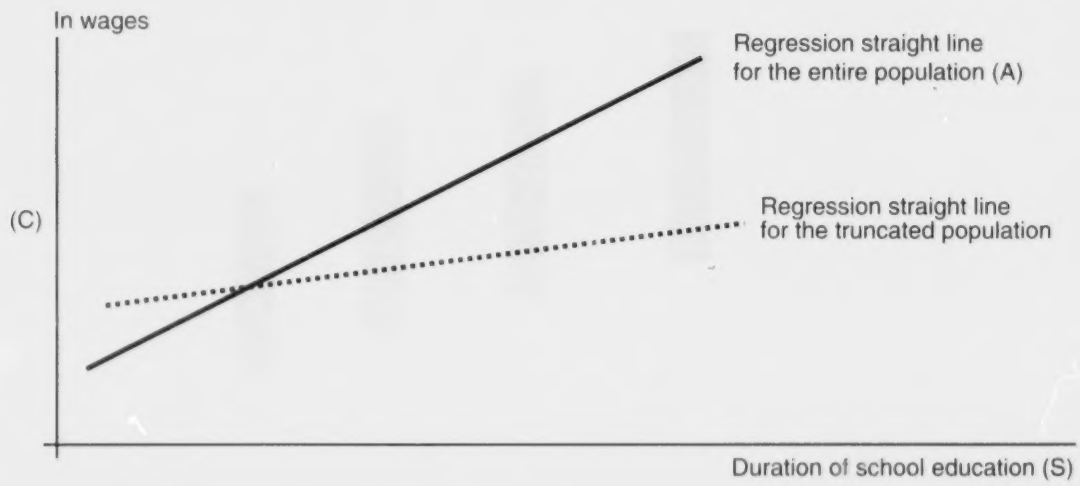
Most of these works are in fact empirico-deductive by nature; the allocation of manpower between the primary and secondary sectors is explained ex-post. The procedure for delimiting the segments is based on a system of a priori classification and fails to take account of the endogenous nature of a segment. This criticism was advanced first by Cain (1976); splitting the labour force in two on the basis of wages received and an estimated earnings function for each of the sub-samples creates a selection bias. This bias emerges each time 'a selected sample from within a larger population is used to test behavioural relations' (Heckman, 1979). So it is not surprising that school education has less impact on earnings in the secondary segment since, by definition, it excludes the high values of the dependent variable of the regression equation.

In the view of Psacharopoulos (1978) a priori segmentation on the basis of the dependent variable is a tautological form of reasoning: if the segments are defined on the basis of the wage level, the correlation between earnings and this type of segment tends to produce a stronger gradient in the function of earnings in the primary sector. So the tests of the dual hypothesis are linked in a circular manner to the definitions of the segments.

[14] In this sector, wages are not affected by the build-up of human capital.

[15] See Dickens and Lang (1985), Heckman and Hotz (1986), Taubman and Wachter (1986) for a survey of these works.

Figure 1: Functions of earnings and selection bias



The selection bias results not only from the truncation of the data but also from the fact that the position of the individuals in the wages hierarchy, on which the design of the sample is based, is the result of individual choices that are not independent of non-observed characteristics.

More precisely, the separate regressions on the sub-samples can produce biased estimated coefficients if in fact only one earnings function, represented by straight line (A) in the figure below, characterises the entire population. Straight line (A) reflects the positive relationship between education and wages; to simplify matters, the function of earnings is reduced to the model of school education. The variability of the residues of this function is represented by the points around the straight line.

For low-waged individuals (below C in this figure), the relationship between job income and education is biased downwards because the residue of the function of earnings for this sub-population is correlated negatively with the level of school education S, even if this correlation is nil for the entire population. In fact, in the low-waged segment, we only find individuals who have high-level diplomas but whose non-observed characteristics (abilities, talents, motivation...) are low, which situates their wages lower than they would have expected for their level of school education. The return on their years of studies will, consequently, be low for this group.

The dotted straight line shows the impact of the selection bias; even if regression straight line (A) correctly translates the individuals' behaviour whatever their wages, the single statistical method used here tends to differentiate them.

The aim of the empirical studies comparing two earnings functions is to test the validity of the dualist version of segmentation are open to two criticisms. The first derives from the fact that the results are subject to a selection bias and confer an artificial superiority on the dual hypothesis. The second is that no conclusions can be drawn without also testing whether barriers to entry to the primary sector actually exist.

Improved tests of the dualism of the labour market

The first improvement involves dividing the two segments in the same way and correct-

Figure 2: Theory of human capital

ing the selection bias on the basis of the approach developed by Heckman (1976 and 1979) and then comparing the estimated coefficients of the two earnings functions.

On the basis of this test conducted on a male Panamanian population, Heckman and Hotz (1986) conclude that a dual labour market exists.

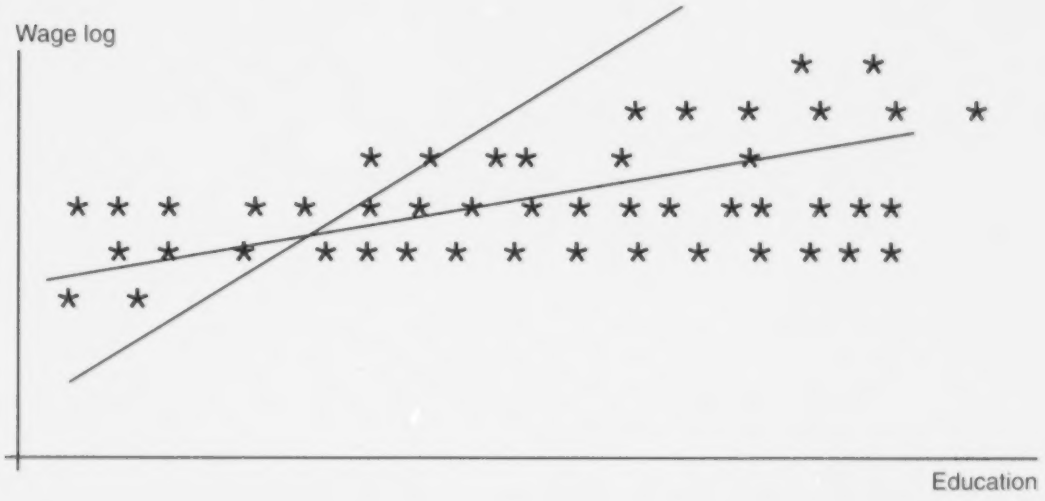
However, it is only valid on the basis of restrictive hypotheses; the functional form of the earnings equation, assuming a nil hypothesis of a non-dual market, needs to be known for the population considered, the variable of the duration of studies must be exogenous and, lastly, given the selection rule, the conditional average of the residues of the earnings function must be estimated consistently (which means specifying the distribution of this term). In other words, if the test is to be reliable, the model must be specified correctly. But there is no evidence that, for example, the *education-wages* relationship is a linear one, even though the earnings functions on which the studies of dualism are based are linear. In fact there is nothing in economic theory to suggest that individuals with, for instance, five years of education are only half as productive as those who studied for ten years. We have no a priori knowledge of the functional relationship between job returns and education, or of that between wages and any other productive attribute. Once the selection biases have been corrected, the conclusions that argue in favour of the dual hypothesis could quite simply be a misinterpretation resulting from an error in specification (such as the presence of non-linearity in the equations.

The graphs proposed by Dickens and Lang (1985) show the ambiguity of the test when it is based on a comparison between two wages equations that supposedly describe the dual hypothesis and a single equation that supposedly represents a single labour market.

It is assumed that the educational level achieved and the non-observed characteristics, which are not correlated with education, can in themselves explain the wage level. In that case, the log-linear regression shown below (figure 2) translates the functioning of a labour market compatible with the theory of human capital.

Assuming that the theory of a dual labour market is more descriptive of the labour mar-

Figure 3: Dualist labour market theory



ket than the theory of human capital, we obtain the following:

The question is not only whether, on the basis of the analysed data, it is easier to adjust two equations than one, but also whether, over the same time, these two regressions are consistent with the predicates of the dual theory. In fact, as pointed out by Dickens and Lang (1985, p. 795), the fact that the two equations prove more explanatory than a single regression can in no case constitute in itself a test of the dual hypothesis. Figure 4 illustrates this situation.

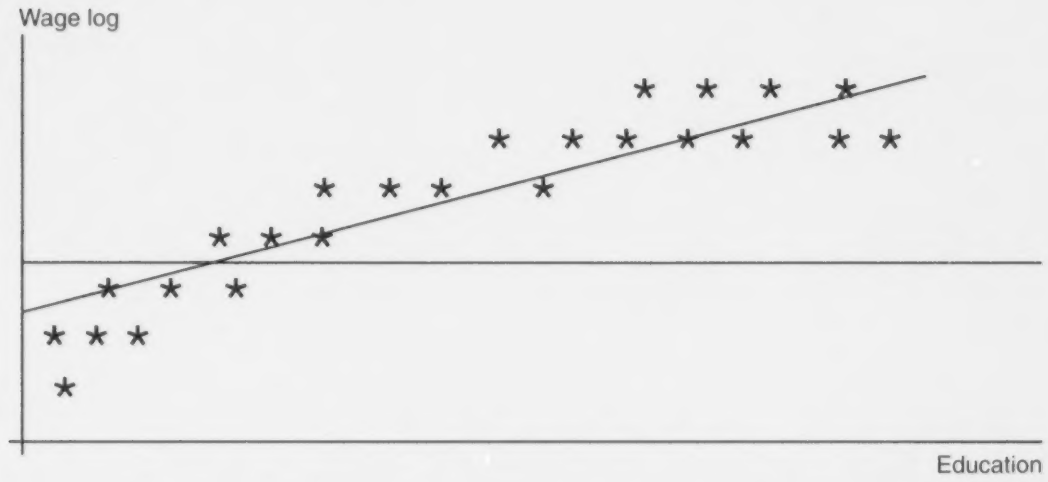
The two linear regressions adjust the data better than a single one, although that does not mean this validates the dualist theory: to do that, one of the two equations should have had a positive slope while the second was horizontal and situated below the first for most of the observations. So the dual hypothesis can be regarded as valid by implication if the true relationship between education and wages is non-linear.

An alternative test of the same nil hypothesis is to check whether a single earnings function estimated for the entire population can predict the low-wages segment. The estimated coefficients of this function of earnings must be proportional to the coefficients of a linear (or logistic) probability model that determines participation in the low-wages sector. The test can be formulated differently: if the corrected earnings function of the selection bias for the high-wages segment does not explain earnings in the low-wages sector, then a dual market exists. Once again, on the basis of this approach, Heckman and Hotz (1986) conclude that there is a dual labour market in Panama.

These tests for dualism are based on the hypothesis that the true functional form of the wages equation in the scenario of a competitive market is known. They also assume that threshold C of the figure illustrated above is the perfect criterion for defining the primary and secondary sectors, while the division of the population into two segments is based on an arbitrary selection criterion.

Taking it as their primary objective to avoid this *ad hoc* selection, Dickens and Lang (1985) estimate a model based on a change of endogenous regime with an unknown separation rule. They try to specify two wages equations and a third equation that predicts the allocation of the individuals to one or the other of

Figure 4: Theory of human capital based on a non-linear education-wage relationship



the segments, while at the same time estimating these three regressions. The individual probability of belonging to a particular sector is calculated a posteriori and is conditional on the information provided by the wages.

Despite these precautions, the empirical evidence of distinct wages equations still does not invalidate the hypothesis of the competitive functioning of the labour market: the presence of a highly heterogeneous workforce faced with a demand that is also differentiated can generate major wage disparities in a context that is nonetheless competitive. On the supply side, workers are distinguished among themselves by the abilities acquired during their education and/or employment. These abilities, described only in part by information such as the duration of school education or experience, result in an investment whose cost is correctly compensated by the differential of the wage obtained (theory of compensatory differences, Smith 1776; Rosen, 1986).

Similarly, if wages equations are regarded as functions of inverse demand (Lancaster 1971; Rosen and Willis 1979) it becomes possible to justify, in a competitive framework, coefficients/prices linked to the variables of human capital that are mechanically higher in one of the two sectors. In fact, if we assume that one sector needs to recruit a high proportion of qualified employees, it will have to attract more workers with adequate abilities by attaching more value to the human capital and de facto pursuing a wage policy, which is a source of disparities with the other sector.

Lastly, wage disparities can reveal imperfections on the labour market only if non-compensatory wage differences – in the sense that these differences do more than compensate for the cost of investment in human capital – are exhibited.

Tests of barriers to entry to the primary sector

So far, the tests of the dual hypothesis based on a comparison of the earnings functions linked to the two segments do not lead to the conclusion that obtaining distinct earnings functions is compatible with the human capital theory. If individuals are free to choose their job segment, the returns from education and the implicit prices of the other characteristics can differ between the primary and the secondary sector without that necessarily being evidence of dualism.

Dickens and Lang (1985, 1987) propose a test. It relates to the crucial hypothesis of the dualist theory, namely the rationing of primary sector jobs (this hypothesis can be extended to the existence of negative feedback effects which make entry to the primary sector more difficult for secondary sector individuals who could potentially have had access to it). The existence of barriers to entry is the central hypothesis of the segmentation theory because the existence of intersectoral mobility would imply the equalisation of wages between sectors, leaving aside compensatory differences. It represents a major break with the theory of human capital (Dickens and Lang 1985, p. 793).

So the nil hypothesis of non-rationing has to be tested, while at the same time assuming that individuals maximise their earnings with no cost of mobility between the segments and that the distribution of the residues of the earnings functions is known. Under this nil hypothesis the coefficients of the equation of change of regime should be proportional to the difference between the coefficients of the corresponding variables in the two earnings functions. Rejection of proportionality is interpreted as acceptance of the segmentation hypothesis. Dickens and Lang (1985) show on the basis of American data that at least some secondary-sector workers (non-white workers) do face barriers to entry to the primary sector.

Once again, rejecting the hypothesis of non dualism is not informative. In fact the hypothesis of the absence of a cost of mobility between sectors is not pragmatically tenable and in consequence the deciding rule determining the allocation between the two sectors is not properly specified. The segmentation test proposed by Magnac (1991) makes it possible to move away from this hypothesis. It centres the individual's choice of employment sector on the conditions of entry to each of these sectors. While a neo-classical theory of the labour market – based on the model proposed by Roy (1951) – regards wages as the only factor of access to jobs, the model of the segmentation hypothesis takes account of the existence of barriers to entry to the primary sector through a queue. The cost of entry corresponds to the capacity of each individual to join this queue. A test of the segmented market hypothesis is based on the estimation of these entry costs. This test of rationing, whose consequence is the existence of a more or less long queue to entry to the primary sector, was carried out by Magnac (1991) using Colombian data. Based on Roy's model, extended to correct the different selectivity biases, it does not lead to a rejection of the competition hypothesis. The analysis also shows the existence of comparative individual advantages between sectors; the wage disparity proves to be the result of a markedly heterogeneous workforce.

Since the test based on comparing two earnings functions in which the allocation of workers to the market segments is based on an arbitrary criterion, various improvements have been made:

- correction of the selection biases,
- endogenisation of the choice of sector and supplementing the analysis with a test of the rationing hypothesis with no cost of mobility between sectors,
- lastly, the endogenisation of the choice of sector, taking account of the effect of rationing on this choice (via an individual mobility cost).

Yet the results of the tests can still be biased. Heckman and Hotz (1986) set out the reasons for this bias. The first is that the labour market can comprise more than two segments. Dualism proves to be a very poor description of the market. So the conclusion drawn from the test is erroneous if one of the segments is itself heterogeneous which, in the view of Piore (1975) is the case for the primary sector. In that case, the sectoral choices are not rationed, the model is simply badly specified because it translates a uni-varied problem of choice where the real problem of choice is multi-varied. A second source of error lies in the poor specifications of the model's equations; the hypotheses that the residues are standard and the earnings functions are linear are wrong. Lastly, (non-monetary) arguments other than wages play their part in the choice of segment. The employees seek to maximise their utility and not their earnings[16].

[16] Note that Heckman and Sedlacek (1985) réject the hypothesis of income maximisation.

Nested employment structures or segmented labour market

This section takes stock of the advances in the most recent French empirical works to test the segmentation of the labour market from the point of view of the various difficulties we have set out. These advances consist in avoiding dualism and putting forward a description of the labour market that takes account of its complexity. This makes it possible to highlight the elements of specificity of segmentation 'à la française' and to offer empirical interpretations, for the case of France, that are in no way based on the analyses of Doeringer and Piore (1971).

Hanchane and Joutard (1998) adopt and set out an approach that can reveal the heterogeneous nature of the labour market by the interaction of two criteria: continuing vocational training and type of mobility, internal or external. This multi-sectoral approach leads to the definition of four segments: internal mobility without continuing training, internal mobility with continuing training, external mobility without continuing training, external mobility with continuing training. Aside from the fact that they identify a more varied segmentation, these criteria, in particular the type of mobility, lie at the heart of the theoretical thinking on the question of enhancing the value of human capital.

From a methodological point of view, this approach means estimating a model with several regimes. There are two stages to the approach. First, Hanchane et Joutard (1998) estimate selection equations drawn from discrete choice models to obtain initial information on the structure of the labour market. The analysis is supplemented by an estimation of the potential earnings function for each of the segments. Drawing on the approach of Lee (1983), the two authors specify four potential wages equations for each employee. When the employees have been situated on one of the segments under consideration, information is available for each of them on the 'choice' made and the wages; this information is extracted from a model that contains the equations of choice and the earnings functions. To the extent that each employee is allocated to a segment, the observed wages are governed by mechanisms proper to the functioning of the segment. To disregard this allocation could lead to a selection bias and result in a non-convergent OLS (ordinary least square) method of estimation for each wages equation. So Hanchane and Joutard introduce a corrector term into these equations, based on probabilities of choice, which corrects any possible bias at the level of the parameters and the standard deviations.

However rigorous the estimation procedure, this approach is open to at least two criticisms, which Hanchane and Joutard (1998) endeavour to answer in their second work. These criticisms relate to the *ad hoc* nature of the criterion of allocating individuals to the various sectors and to the very questionable hypothesis of the independence of the non-appropriate alternatives (IAA), on which the first stage of estimation of the allocation model is based.

The approach proposed by Hanchane and Joutard offers tw· advantages: it allows them to suspend the IAA hypothesis and therefore to give a more varied description of the labour market while also resolving the problem of a priori allocation.

The authors start out from the idea that although it may be justified to distinguish between four market segments, some individuals may also possess characteristics that mean they can be allocated to several segments indiscriminately. So there would be segments that apparently differed according to the *ad hoc* criteria, but some of them would comprise jobs with common attributes, e.g. a type of human capital. To the extent that part of the human capital possessed by the employee and required for the job remains unobserved, one could envisage, without any a priori, several models of allocation to these segments. At that point, the method chosen by Hanchane and Joutard consists of estimating several *nested logit* models, based on the thinking of Amenya and Shimono (1989). They discriminate between the various models using the test developed by Vuong (1989)

to identify the best structure for adjusting the data. Because it allows different empirical associations to be envisaged between segments, this method provides a highly flexible means of describing the functioning of the labour market.

521

Bibliography

Amenya T., Shimono K., 1989. An application of nested logit models to the labor supply of the elderly. *The Economics Studies Quarterly*, 1.

Aventur F., Möbus M., 1999. *Formation professionnelle initiale et continue en Europe. Visa pour l'avenir*. Paris: Magnard/Vuibert Multimédia.

Ballot G., 1996. *Les marchés internes: de la micro-économie à la macro-économie*. Paris: Presses universitaires de France.

Balchin A., Ashton D., 1995. Stratégies des acteurs, production de normes, genèse des dispositifs: Royaume-Uni. *La Revue de l'IRES*, 17, pp. 135-164.

Balsan D., Hanchane S., Werquin P., 1998a. Subminimum wage employment and earnings profiles in low skill labour market. Evidence from French panel data; 1989-95. *In*: Bazen S., Gregory M., Salverda W., eds. *Low wage employment*. Cheltenham: Edward Elgar.

Balsan D., Hanchane S., Werquin P., 1998b. *Analyse longitudinale de l'insertion professionnelle des jeunes en France: exemple des statuts d'emploi et des salaires*, soumis à Annales d'économie et de statistique.

Balsan D., Hanchane S., Werquin P., 1996. Mobilité professionnelle initiale: éducation et expérience professionnelle – Un modèle *Probit* à effet aléatoire. *Économie et Statistique*, 299, pp. 91-106.

Balsan D., Hanchane S., Werquin P., 1994. Analyse salariale des dispositifs d'aide à l'insertion des jeunes. *Formation Emploi*, 46, pp. 31-45.

Becker G., 1993. *Human Capital: a theoretical and empirical analysis*. 3rd ed. New York: Columbia University Press.

Béduwé C., Espinasse J.-M., 1995. *Les Cahiers du LIHRE*, 1.

Beret P. et al., 1997. *Valorisation de l'investissement formation sur les marchés du travail français et allemand: distinction entre valeur productive et valeur de signalement. Rapport final pour le Commissariat général du Plan*. Aix-en-Provence, Laboratoire d'économie et de sociologie du travail (LEST).

Beret. P., 1992. Salaires et marchés internes: quelques évolutions récentes en France. *Économie Appliquée*, 2, pp. 5-22.

Berger S., Piore M.J., 1980. *Dualism and discontinuity in industrial societies*. Cambridge: Cambrige University Press.

Buttler F., Tessaring M., 1995. Le capital humain, facteur de l'implantation industrielle en Allemagne: une discussion du point de vue du marché du travail. *Sociologie du Travail*, 4, pp. 577-594.

BMBF, 1997. *Basic and structural data 1997/98*, Bonn.

Boyd Black, 1994. Labour Market incentive structures and employee performance. *British Journal of Industrial Relation*, 1, pp. 99-111.

Buechtemann C.F., Soloff D.J., 1995. Enseignement général, formation professionnelle et économie. *Formation Emploi*, 50, pp. 5-17.

Bundesministerium für Bildung und Wissenschaft (BMBW), 1991. *Grundlagen Perspektiven: Berufsbildungbericht 1991*. Bonn: BMBW.

Bundesministerium für Bildung und Wissenschaft (BMBW): *Grund- und Strukturdaten* (several issues).

Cahuc P., Zajdela H., 1991. Comment expliquer le dualisme du marché du travail à partir de comportements rationnels? *Revue Economique*, 3, pp. 460-491.

Cahuc P., Zylberberg A., 1996. *Economie du travail. La formation des salaires et les déterminants du chômage*. Paris: De Boeck & Larcier.

Cain G., 1976. The challenge of segmented labor market theories to orthodox theory. *Journal of Economic Literature*, Vol. 14, pp.1215-1257.

Campinos-Dubernet M., Grando J.-M., 1988. Formation professionnelle ouvrière: trois modèles européens. *Formation Emploi*, 22, pp. 5-29.

Cases C., Lollivier, 1994. Estimation d'un modèle de sortie du chômage à destinations multiples. *Economie et Prévision*, 113-114, pp. 177-188.

CATEWE (2000, forthcoming) – *Final report of the Leonardo programme.*

Davis S., 1993. *The quality distribution of jobs in search equilibrium.* mimeo, Chicago.

Delcourt J., Méhaut Ph., 1995. *Le rôle de l'entreprise dans la production des qualifications. Effets formateurs de l'organisation du travail. Rapport de synthèse.* Cedefop. Luxembourg: EUR-OP.

DEP, Ministère de l'éducation nationale, de la recherche et de la technologie, Direction de l'évaluation et de la prospective, 1997. *Repères et références statistiques sur les enseignements et la formation.* Paris: DEP.

Dickens W., Lang K., 1985. A test a dual labor market theory. *American Economic Review*, Vol. 75.

Dickens W., Lang K., 1987. Where have all the goods jobs gone? De-industrialisation and labor market segmentation. *In*: Lang K., Leonard J.S. *Unemployment and the structure of labor markets.* New York: Basil Blackwell.

Doeringer P.B., Piore M.J., 1971. *Internal labor markets and manpower analysis.* Lexiton (Mass.): Heath.

Doeringer P.B., Piore M.J., 1985. Internal labor markets analysis: a second look. *In*: *Internal labor markets analysis and manpower analysis.* Lexiton (Mass): Heath, pp. IX-XXXV.

Drexel I., 1992. *Das Ende des Facharbeiteraufstiegs? Neue mittlere Bildungs- und Karrierewege in Deutschland und Frankreich –ein Vergleich.* Frankfurt: Campus Verlag.

Drexel I., 1993. Le segment intermédiaire des systèmes de formation en France et en RFA. *Formation-Emploi*, 44, pp. 3-23.

Dunlop J. T., 1958. *Industrial relations systems.* New York: Holt.

Eckert H., Hanchane S., 1997. Temporalités de l'insertion professionnelle. Une approche longitudinale. *Formation Emploi*, 60, pp. 49-65.

Erikson G., 1991. Human capital investments and labor mobility. *Journal of Labor Economics*, 3, pp. 236-254.

European Commission, 1995. *White Paper on Education and Training. Teaching and Learning – Towards the Learning Society.* Luxembourg: EUR-OP.

Eyraud J-F., Marsden D., Silvestre J-J.; 1990. Marché professionnel et marché interne du travail en Grande-Bretagne et en France. *Revue Internationale du Travail*, 4, pp. 551-569.

Favereau O., Sollogoub M., Zighéra J-A., 1991. Une approche longitudinale de la segmentation du marché du travail. *Formation Emploi*, 33, pp. 3-17.

Finegold D., Soskice D., 1988. The failure of training in Britain: analysis and prescription. *Oxford Review of Economic Policy*, 3, pp. 21-53.

Forgeot G., Gautié J., 1997. Insertion des jeunes et processus de déclassement. *Economie et Statistique*, 304-305, pp. 53-74.

Freyssinet J., 1990. Les modes d'insertion professionnelle des jeunes: trajectoires nationales face à la crise. *La Revue de l'IRES*, 4, pp. 49-66.

Garonna P., Ryan P., 1989. Le travail des jeunes, les relations professionnelles et les politiques sociales dans les économies avancées. *Formation Emploi*, 25, pp. 78-90.

Germe J.F., 1986. Employment policies and the entry of young people into the labour market in France. *British Journal of Industrial Relations*, 1.

Gospel H., 1997. *The revival of apprenticeship training? the modern apprenticeship in Britain.* Marseille: Céreq.

Goux D., Maurin E., 1994. Education, expérience et salaire: tendances récentes et évolution de long terme. *Economie et Prévision*, 116.

Greinert W-D., 1997. *Le système dualiste de formation professionnelle en République fédérale d'Allemagne. Structures et fonctionnement.* Eschborn: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

Hanchane S., 1998. *Formation, salaires et mobilités. Entre fondements théoriques et approches empiriques. Candidature pour le diplôme d'habilitation à diriger les recherches. Sous la direction de Louis-André Gérard-Varet.* Marseille: Groupement de recherche en économie quantitative (GREQUAM).

Hanchane S., Joutard X., 1998. Une approche empirique de la structure du marché du travail: salaires, formes de mobilité et formation professionnelle continue. *Economie et Prévision*, 135, pp. 57-75.

Heckman J., 1979. Sample selection bias as a specification error. *Econometrica*, vol. 47.

Heckman J., 1976. *Sample selection bias as a specification error.* Annals of Economic and Social Measurements, Vol. 5.

Heckman J., Hotz V., 1986. An investigation of labor market earnings of Panamanian males evaluating the sources of inequality. *Journal of Human Resources*, 21.

Heckman J., Sedlacek G., 1985. Heterogeneity, aggregation and market wage functions: an empirical model of self-selection in the labor market. *Journal of Political Economy*, 93, pp.1077-1125.

Joutard X., Werquin P., 1992. Les déterminants individuels de la durée du chômage: de l'intérêt de distinguer les emplois stables des emplois précaires. *Economie et Prévision*, 102-103, pp. 143-156.

Jovanovic B., 1979. Job matching and the theory of turnover. *Journal of Political Economy*, 87 (5) part 1.

Katz E., Ziderman A., 1990. Investment in general training: the role of information and labour mobility. *The Economic Journal*, 100, pp. 1147-1158.

Kern H, 1993. La restructuration de l'économie dans une perspective comparative. *In*: Durand J-P., ed. *Vers un nouveau modèle productif?* Paris: Syros, pp. 285-299.

Kern H., Schumann M., 1984. *Das Ende der Arbeitsteilung?* Munich: Oscar Beck.

Kerr C., 1954. The balkanisation of labour markets. *In*: Bakke E.W., ed. *Labor mobility and economic opportunity*. Cambridge: MIT Press.

Kirsch E., 1998. Les nouveaux territoires de l'enseignement technique. *Céreq-bref*, 145.

Krais B., Trommer L., 1995. Stratégie des acteurs, production de normes, genèse des dispositifs. Allemagne. *La Revue de l'IRES*, 17. pp. 39-65.

Lallement M., 1999. *Les gouvernances de l'emploi*. Paris: Desclée de Brouwer.

Lancaster K.J., 1971. *Consumer demand: a new approach*. New York: Columbia University Press.

Lee L.F., 1983. Generalized ecometric models with selectivity. *Econometrica*, 2, pp. 507-513.

Lefresne F., 1998. Trajectoires d'insertion en France et au Royaume-Uni: une hypothèse de convergence. *La Revue de l'IRES*, 28, pp. 83-120.

Lefresne F., 1994. Système de formation professionnelle et dynamique du marché du travail au Royaume-Uni: incidences sur l'insertion des jeunes. *Formation Professionnelle*, 2, pp. 48-52.

Lutz B., 1993 Educational change, internal labour markets and workers protection: toward an agenda for the 1990's. *In*: Buechtemman C.F., ed. *Employment security and labour market behavior*. New York: ILR Presse Itaca.

Lutz B., Boyer R., 1992. Le système allemand de formation professionnelle: principes de fonctionnement, structure et évolution. *In*: Möbus M., Verdier E., eds. *Le système de formation professionnelle en République fédérale d'Allemagne. Résultats de recherches françaises et allemandes*. Marseille: Céreq. (Collection des Etudes, n° 61), pp. 137-156.

Magnac T., 1991. Segmented or competitive labor market?. *Econometrica*, 1, pp. 165-188.

Marsden D., 1998. De la relation salariale à l'effet sociétal, recherche des fondements micro des effets sociétaux macro. *In*: Gazier B., Marsden D., Silvestre J.-J., eds. *Repenser l'économie du travail. De l'effet d'entreprise à l'effet sociétal*. Toulouse: Octares, pp. 119-132.

Marsden D., 1989. *Marchés du travail: limites sociales des nouvelles théories*. Paris: Economica.

Marsden D., Ryan P., 1990. Institutional aspects of youth employment and training policy in Britain. *British Journal of Industrial Relations*, 3, pp. 351-369.

Maurice M., Sellier F., Silvestre J-J., 1982. *Politique de l'éducation et organisation industrielle en France et en Allemagne. Essai d'Analyse sociétale*. Paris: Presses Universitaires de France.

Moncel N., 1998. Comparaison des modes de mobilisation de la main-d'fiuvre jeune en France et en Grande-Bretagne. *La Revue de l'IRES*, 28, pp. 121-143.

Moncel N., 1999. *La mobilisation de la main-d'fiuvre jeune par les entreprises: logiques sectorielles, logiques sociétales. Thèse présentée et soutenue publiquement le 20 janvier 1999 en vue de l'obtention du doctorat es sciences économiques*. Nancy: Université Nancy 2, Faculté de droit, sciences économiques et gestion.

Möbus M., Verdier E., 1999. Diplômes professionnels et coordination de la formation et de l'emploi: l'élaboration d'un signal en France et d'une règle en Allemagne. *In*: *Eléments d'analyse de l'efficacité des systèmes éducatifs et de formation: colloque de l'Institut d'économie publique (IDEP). Marseille, les 21 et 22 juin 1999.*

Möbus M., Verdier E., 1997. *Les diplômes professionnels en Allemagne et en France. Conception et jeu d'acteurs*. Paris: L'Harmattan.

Möbus M., Sevestre P., 1991. Formation professionnelle et emploi. *Economie et Statistique*, 246-247, pp. 77-89.

Möbus M., Grando J.-M., 1988. Les métiers du bâtiment dans les systèmes de formation. RFA: le monopole du système dual. *Formation Emploi*, 22, pp. 30-45.

Pigou A. C., 1945. *Lapses from full employment*. London: Macmillan.

Piore M.J., 1975. Notes for a theory of labor market stratification. *In*: Edwards R.C., Reich M., Gordon D.M. *Labor market segmentation (papers)*. Lexington (Mass): D.C Heath.

Psacharopoulos G., 1978. Labour market duality and income distribution: the case of the United Kingdom. *In*: Krelle W., Shorrocks A. F, eds. *Personal income distribution*. Amsterdam: North-Holland.

Rainbird H., 1990. *Union perspectives on industrial restructuring and training*. Oxford: Basil Blackwell.

Reynaud B., 1992. *Le salaire, la règle et le marché*. Paris: Christian Bourgois.

Reynaud F. D., 1987. Qualification et marché du travail. *Sociologie du Travail*, 1, pp. 86-109.

Rosen S., Willis R.J., 1979. Education and self-selection. *Journal of Political Economy*, 87, pp.37-S36.

Rosen S., 1986. Prizes and incentives in elimination tournaments. *American Economic Review*, 3, pp. 701-715.

Roy A. D., 1951. Some thougths on the distribution of earnings. *Oxford Economic Papers*, 3, pp. 135-146.

Ryan P., 1995. Education et formation professionnelle au Royaume-Uni. Changements institutionnels. *Formation Emploi*, 50, pp. 41-62.

Silvestre J-J., 1986. Marchés du travail et crise économique: de la mobilité à la flexibilité. *Formation Emploi*, 14, pp. 54-61.

Schober K., Tessaring M., 1993. *Die unendliche Geschichte. Vom Wandel im Bildungs- und Berufswahlverhalten Jugendlicher*. Materialien aus der Arbeitsmarkt- und Berufsforschung, 3, Nürnberg: IAB.

Simon H. A., 1978. Rationality as process and as product of thought. *American Economic Review*, 68, pp. 1-16.

Smith A., 1776. *Recherches sur la nature et les causes de la richesse des nations*. Paris: Gallimard.

Soskice D., 1991. Mismatch and employment. *In*: Padoa Schioppa F., ed. *Mismatch and labour mobility*. Cambridge: Cambridge University Press.

Stankiewicz F., 1995. Choix de formation et critères d'efficacité au travail. Adaptabilité et financement de la formation générale par l'entreprise. *Revue Economique*, 5, pp. 1311-1330.

Streeck W., 1989. Skills and the limits of Neo-Liberalism: the enterprise of the future as a place of learning. *Work, Employment and Society*, 1, pp. 89-104.

Steedmann H., 1999 (forthcoming). *Are low skilled a European problem?* TSER report.

Taubman P., Wachter M.L., 1986. Segmented labor market. *In*: Ashenfelter O., Layard R., eds. *Handbook of labour economics (vol. 2)*. New York: North Holland.

Tessaring M., 1993. Das duale System der Berufsausbildung in Deutschland: Attraktivität und Beschäftigungperspektiven. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 2.

Thurow L., 1975. *Generating inequality. Basic books.*

Verdier E., 1995. Politique de formation des jeunes et marché du travail – la France des années quatre vingt. *Formation Emploi*, 50, pp. 19-40.

Verdier E., 1996. Insertion des jeunes à la française: vers un ajustement structurel? *Travail et Emploi*, 69, pp. 37-54.

VTML T,1998. *Education, Vocational Training and Labour Transitions amongst Lower Level School Leavers in Four European Countries – Final Report*, Damian F. Hannan and Emer Smyth (coordination) – ESRI Leonardo programme.

Vuong G.H., 1989. Likelihood ratio tests for model selection and non-nested hypotheses. *Econometrica*, 2, pp. 307-333.

Wachter M.L., Wright R.D., 1990. The economics of internal labor markets. *Industrial Relations*, 2, pp. 240-262.

Waldman M.,1984. Job assignments, signaling and efficiency. *Rand Journal of Economics*, 2.

Williamson O., 1975. *Markets and hierarchies: analysis and anti-trust implications*. Glencoe: Free Press.

Zedler R; 1994. Le rôle des partenaires sociaux dans l'intégration des jeunes dans le monde du travail: l'exemple de la RFA. *Formation professionnelle*, 2, pp. 53-58.

The employment and training practices of SMEs
Examination of research in five EU Member States

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Abstract

This contribution discusses the main driving forces of the employment and training behaviour of small and medium-sized enterprises in Germany, Spain, France, Italy and the UK. After an 'anatomy' of SMEs, the paper attempts to locate their place and evolution in the current changes of the production system: creation and substitution, determinants of the demography of SMEs, ambivalence of technological intensity and innovations. Investigations on entrepreneurship and its contribution to the economic dynamism and job creation are also discussed.

The second part deals with SMEs as actors on the labour market. Special attention is given to the utilisation of external labour force, to their recruitment behaviour and their role in the professional integration of young people.

The third part discusses the training behaviour of SMEs. Research dealing with the intervention of SMEs in the construction or development of professional competences and employability is presented. Experimentation of continuing vocational training in enterprise networks, at territorial level or in professional branches is also presented. The emergence of new more flexible training settings more adapted to SMEs and especially to small and micro-enterprises is tested. These settings contribute to dislocation of the traditional model of training based on the unity of time, place and action.

527

Table of contents

1. General introduction 95
1.1 SMEs make a comeback 95
1.2 Outline of this report 97

2. European literature under review: a risky but enlightening venture 99
2.1 France: a national tradition which does not favour SMEs 100
2.1.1 The institutional and academic predominance of the large-enterprise model ... 100
2.1.2 Obsession with the modernisation of SMEs 100
2.1.3 From tangible technologies to intangible technologies 101
2.1.4 The relationship between SMEs and employment: a relatively recent issue 102
2.1.5 Highly compartmentalised academic research 102
2.1.6 The various fields of research on initial and continuing vocational training 103
2.1.7 Statistical data: consistent evidence of unequal access to continuing vocational training 104
2.1.8 The inappropriateness of legal provisions to SMEs 105
2.1.9 The breakthrough of qualitative studies: SMEs between market and State 105
2.2 The UK: research on SMEs' contribution to employment and their place in the new model of vocational education and training (VET) 106
2.2.1 The significance of small firms in creating new jobs 106
2.2.2 The controversial effects of government policies on employment growth in SMEs 107
2.2.3 Research on the quality of employment in small firms 107
2.2.4 Interactions between the labour market and small firms 108
2.2.5 Competitive strategies and employment practices 109
2.2.6 Reforms of the education and vocational training system 109
2.2.7 Occupational integration and SMEs 111
2.2.8 The limitations of a market-based approach 112
2.3 Italy: the basic model of the district and vocational training as 'productive socialisation' 114
2.3.1 The SME theory is indissociable from the model of the district 114
2.3.2 The social structuring of markets as the basis of the model and its reproduction 115
2.3.3 The 'three waves' of research on SMEs 116
2.3.4 Think industrial development before training policies 117
2.3.5 'Training' or the 'socialisation of knowledge'? 117
2.3.6 Regional differences in unemployment levels and the new challenge of the integration of young people 118
2.4 Germany: the historic role of the 'Mittelstand' in regulation of the labour market and the training/employment relationship 118
2.4.1 SMEs: an economic reality that is inseparable from social history 119
2.4.2 ...but a neglected subject of research prior to the 1980s 119
2.4.3 From vindication to the identification and analysis of unique features 120
2.4.4 From euphoria to realism 121
2.4.5 A special way of dealing with the diversity of SMEs: the 'segmentationist' theory 122
2.4.6 The controversy around new information and communication technologies [NICTs] 123
2.4.7 SMEs in the restructuring of the industrial apparatus of the new Länder 123
2.4.8 Structural change and SMEs' role in constructing skills and qualifications 123
2.4.9 Skills and qualifications structures and globalisation 124
2.4.10 SMEs: stakeholders in the crisis and in the restructuring of the vocational training system 126

528

2.5 Spain: lots of SMEs – little research ... 127
2.5.1 Works on the economic role of SMEs ... 127
2.5.2 SMEs at the centre of new labour market regulations? ... 127
2.5.3 Government research ... 127

3. The role of SMEs in the transformation of production systems: social and methodological diversity ... 128
3.1 A generic 'SME', or SMEs in the plural? ... 128
3.1.1 A subject with unclear definitional boundaries ... 128
3.1.2 The social components of the definition ... 130
3.2 The various methods of approach ... 130
3.2.1 Macrostatistical studies: rethinking SME/LE relations in new approaches to production ... 131
3.2.2 Longitudinal research: understanding processes ... 133
3.2.3 From sector to system: coordinating industrial economics and strategic management ... 135
3.2.4 Territorial approaches: in the shadow of the recurrent model of industrial districts 'à l'italienne' ... 136
3.2.5 The virtues of socioeconomic typologies: enterprise profiles, manager profiles . 138
3.2.6 Ethnographic studies ... 140
3.3 From 'Schumpeterist' ('Schumpeterian') entrepreneur to socialised creator ... 141
3.3.1 Flourishing research that demystifies the image of the 'inspired' entrepreneur ... 141
3.3.2 Enterprise creation and the labour market ... 142
3.3.3 Sectoral variables ... 143
3.3.4 The social determinants of 'enterprise spirit' ... 144
3.4 For a demography of SMEs nonetheless... ... 146
3.4.1 From anatomy to physiology ... 146
3.4.2 More pure creations than transfers, but fewer jobs than in existing or re-launched SMEs ... 147
3.4.3 The main determinants of the demography of SMEs ... 148
3.4.4 The ambivalence of technological intensity and innovation ... 149

4. SMEs as players on the labour markets ... 150
4.1 The quantitative contribution of SMEs to employment: an open question ... 150
4.1.1 The seminal work of D. Birch on the volume of employment ... 152
4.1.2 An unquestionable contribution to the stock of jobs ... 152
4.1.3 ... but questions regarding their role in net job creation ... 152
4.2 The main factors determining SME employment practice ... 157
4.2.1 The traditional variables ... 157
4.2.2 The strategic behaviour variable and SME models ... 158
4.3 Recourse to the external market and forms of labour management ... 161
4.3.1 A privileged role in finding young people their first jobs ... and helping 'older' workers back into work ... 162
4.3.2 Internal markets and dualisation of labour in SMEs ... 163
4.3.3 The hypothesis of SMEs as a 'transitional market' ... 164
4.3.4 The question of 'crossing thresholds' ... 165
4.3.5 Extending the analysis to forms of labour management ... 167
4.4 The current outbreak of work on job quality ... 169
4.4.1 Comparison between small and large enterprises ... 169
4.4.2 The hypothesis of a link between job creation and job quality: 'do more jobs mean worse jobs?' ... 170
4.4.3 The work of the Dublin Foundation ... 171
4.4.4 The Cowling and Storey report (1998): from the elaboration of indicators to the difficulties of international comparison ... 171

529

4.5 The galaxy of self-employment: alternative to unemployment or optical illusion? 172
4.5.1 The contribution of international comparisons 172
4.5.2 Structural trends in self-employment 173
4.5.3 Forced self-employment and 'entrepreneurial culture' 174
4.5.4 Increasingly fluid boundaries between employees and the self-employed 175

5. The role of SMEs in training and in generating professional skills and status 175
5.1 SMEs and initial training: providing a job and/or training? 177
5.1.1 The general effectiveness of vocational training on the labour market 177
5.1.2 Growing interplay between training policies and employment policies 179
5.1.3 The contribution of SMEs to the occupational socialisation of young people: between tradition and new deal 180
5.2 SME use of CVT: low use of formalised training 185
5.2.1 The articulation between initial and continuing training: great differences between countries 186
5.2.2 European work on inequalities of access to CVT 187
5.2.3 Two interpretations of the deficiencies of formalised training in SMEs 189
5.2.4 The main factors determining demand for training 190
5.2.5 The importance of manager training 193
5.3 The ambiguities of 'Training on the Job' 194
5.3.1 The inadequacy of the tools for measuring SME involvement in vocational training 194
5.3.2 Uses and limitations of the cottage industry paradigm 196
5.3.3 SEs are not unsuited to codified training or to using outside training 196
5.4 Towards new forms of regulation... 198
5.4.1 The shift towards a 'skills' logic: between individualisation and institutionalisation 198
5.4.2 Recognition and validation of professional or informal experience 200
5.4.3 Technological and organisational innovations: mirages or a way to make SME training practices more dynamic? 201

6. Conclusions 203
6.1 The employment practices of SMEs 204
6.2 SMEs and vocational training 206

Bibliography 209

530

1. General introduction

In a macroeconomic environment that has for some years been marked by the continuing contraction of employment and structural changes on labour markets, the EU's economic and political decision-makers have come to focus their attention on small and medium-sized enterprises (SMEs)[1]. SMEs have long been ignored or underestimated, with attention focusing on the large organisations that were believed to be the only ones capable of fostering growth and modernity; now, there is a fairly widespread consensus that SMEs are in fact the main source of economic dynamism, innovation and job creation.

1.1 SMEs make a comeback

This interest in SMEs is not new, and their value was highlighted in some early works (Marbach, the German who advanced the theory of the '*Mittelstand*', in 1942; and, more recently, the ideologist Schumacher in 1978, the pragmatist Birch in 1979, etc.)[2]. Of course, this trend has not returned overnight, nor in the same way in every country. What is striking about the most recent history of the phenomenon is its extent and intensity, which have, in most of the developed countries, led to SMEs becoming both a *central feature* of economic, social and employment policies and a *mythical being*, a paragon of virtue.

It was during the 1980s that SMEs really made their comeback. It was a comeback made possible by a whole range of factors that have been enumerated a thousand times: collapse of mass production, trend towards the decentralisation and fragmentation of major groups as a result of the discovery of new sources of competitiveness based on the adaptability and flexibility of small production structures (Piore and Sabel, 1984), the tertiarisation of society, etc. We should also mention the hopes raised by the burgeoning of enterprise creation that came in the tracks of Birch's work and observation of entrepreneurial dynamism in the United States, which it was felt might check unemployment and give a second wind to employment policies that had too often been limited to defensive measures.

Indeed, the figures leave little room for doubt about the significance of SMEs in our economies: in 1996, for example, the European Economic Area[3], plus Switzerland, had some nineteen million private, non-agricultural enterprises employing a total of more than 110 million people. Of these, 99.8% could be cat-

[1] In addition to SMEs for small and medium-sized enterprises, we shall also be using some other abbreviations in this document: SMIs for small and medium-sized industries, VSEs for very small enterprises with fewer than ten employees, SEs for small enterprises with fewer than 50 employees, and LEs for large enterprises with, unless otherwise stated, more than 250 employees.

[2] In this respect, it is difficult to better the monumental work conducted on the initiative of the International Commission of the History of Social Movements and Social Structures (attached to Unesco via the International Committee of Historical Sciences) and modestly called a 'survey' (International Commission of the History of Social Movements and Social Structures, 1981). This project included no fewer than 31 reports on 28 countries in the five continents, drawn up by (many) historians, economists (fewer than today) and highly respected sociologists and political economists. Most of these reports were based on research conducted by working parties set up in the countries being studied and drew on the work of more than 200 researchers. The reports are remarkable in their historical depth and scope, all including extensive bibliographies and all beautifully written. Just two regrets: that small traders and craftsmen are given greater coverage than the small industries of the time, and that coverage of Italy was cut short because of the author's ill health.

[3] Most of the statistics reproduced here are drawn from two major instruments: the series of reports produced by the European Network for SME Research [ENSR], the most recent of which (1997) covers 19 countries (the 15 EU Member States, plus Iceland, Liechtenstein, Norway and Switzerland); and the 'harmonised statistics' for the 15 Member States provided by Eurostat in its regular reports on *Enterprises in Europe*, of which we consulted the fourth and fifth (European Commission, 1996, 1998). In addition to these two major sources, we also consulted the European Commission document (1998).

Table 1.1: Breakdown of enterprises by country and number of employees, in percentages, and total number of enterprises by country, in thousands (1996)

	SMEs				LEs	Total	Total
	Very small enterprises	Small	Medium-sized	Sub-total			
				%			(1 000)
Austria	86.1	10.8	2.4	99.4	0.6	100.0	220
Belgium	96.5	2.9	0.5	99.8	0.2	100.0	800
Denmark	92.4	6.3	1.1	99.8	0.2	100.0	230
Finland	94.4	4.5	0.9	99.8	0.2	100.0	205
France	92.9	5.8	1.1	99.8	0.2	100.0	2 085
Germany	88.1	10.0	1.5	99.6	0.4	100.0	3 440
Greece	97.0	2.6	0.4	99.9	0.1	100.0	580
Ireland	89.8	8.0	1.6	99.4	0.6	100.0	80
Italy	94.4	5.1	0.5	99.9	0.1	100.0	3 345
Luxembourg	84.2	12.4	3.0	99.6	0.4	100.0	15
Netherlands	90.5	7.7	1.4	99.6	0.4	100.0	530
Portugal	93.8	5.3	0.9	99.9	0.1	100.0	690
Spain	94.9	4.4	0.6	99.9	0.1	100.0	2 335
Sweden	91.0	7.4	1.3	99.7	0.3	100.0	285
UK	94.5	4.7	0.7	99.8	0.2	100.0	3 760
EU	93.0	5.9	0.9	99.8	0.2	100.0	18 590

Source: ENSR, 1997. p. 326.

Table 1.2: Enterprises in the European Union in 1995: breakdown by country

	Number of enterprises (in thousands)	Number of people employed (in millions)	Proportion of total employment accounted for by SMEs (in %) (1)
EU - 15	18 049.53	111.76	65.7
B	594.64	3.68	72.6
DK	235.73	1.55	69.5
D	3 334.78	30.03	57.7
EL	746.86	1.73	86.5
E	2 349.67	10.93	79.4
F	2 116.24	15.34	65.9
IRL	70.86	0.74	67.0
I	3 251.88	13.98	79.9
L	17.99	0.18	71.6
NL	488.61	5.22	60.6
A	237.39	2.59	64.5
P	656.76	2.86	79.5
FIN	180.13	1.07	57.4
S	243.55	2.11	61.0
UK	3 355.01	20.12	56.9

1) SME: enterprises with 0-249 employees.
NB: 1994 figures in the cases of EL, I, NL and A.
Source: European Commission/Eurostat, 1998, p. 38.

532

egorised as SMEs (0-249 employees) and 93% as VSEs (0-9 employees), accounting respectively for 65% and 33% of total employment and 60% and 25% of total turnover (see Table 1.1). If we include non-commercial activities and agriculture, we can calculate that more than one person in two in the EU Member States is working in an SME, 45% in small enterprises (with fewer than 50 employees) and a third in enterprises with fewer than ten employees (European Commission, 1996, 1998).

Of course, the relative role of SMEs in the economy and on the labour market and the average size of enterprises vary from one sector to another and from one Member State to another (see Tables 1.2 and 1.3), and there are many possible ways of interpreting this 'comeback' of small production structures. Similarly, the breakdown of employment by staffing levels varies from one country to another (see Table 1.4). Indeed, the overall figures conceal significant complexity and SMEs still represent a landscape that it is difficult to map. This is why it is essential that further research be conducted to provide us with a clearer picture.

The world of research has not been immune to the developments mentioned above. Torrès (1997, 1998), tracing its recent history in the French-speaking countries in particular, identifies three major periods since the mid-1960s. During the first period (1965-1975), research followed the Aston school of thought (Pugh et al., 1968, 1969), focusing on the effects of enterprise size on organisation and functioning (Blau, 1970; Child and Mansfield, 1972; Minzberg, 1982; and Desreumaux, 1992). The second period (1975-1985) saw the coexistence of two distinct currents of research: one focusing on the *specificity* of SMEs and seeking to identify not only the diversity of possible forms but also the constants, permanences and common features; the other focusing on the *diversity* of SMEs and, by examining the many contingencies faced by them, attempting to construct typologies and thereby reduce their heterogeneity. Finally, the third period, which began in the mid-1980s, saw the world of research oscillating between a conception that, whilst developing the theory concerning the specificity of SMES, also focused on the many variations in the unique features of small firms (the 'synthesising' current), and an investigation of the processes of the 'denaturation' of the general model of SMEs, henceforth dependent upon or even dominated by large enterprises (loss of autonomy, rationalisation, etc.).

The Torrès theory is all the more attractive in that it accounts for a movement of thought that, despite some inevitable differences in the timing of its emergence caused by varying national situations, has become fairly widespread, not only in the French-speaking countries but in most EU Member States. This is, in any event, what emerges from an overview of research on SMEs in the five Member States we chose to study (D, E, F, I, UK).

1.2 Outline of this report

Following this brief introduction (*Part 1*), *Part 2* of this report provides a summary of the main research we consulted in studying employment and training practices in SMEs, specifically in the five countries mentioned above. It is prevailing trends and the cutting edge in each country that matter here more than the details, which we go into later in the report.

Part 3 focuses primarily on *definitional and demographic data* (enterprise formation/dissolution). The main difficulty lies in the ephemeral and diverse nature of our subject (see Section 3.1). What is the relationship between a very small enterprise [VSE] of the craft type and a medium-sized industrial enterprise? What is the relationship between an independent, privately owned enterprise and an SME that is part of a group or a franchise network? What is the relationship between an SME in the manufacturing sector and an SME in the service sector? This is why it is more appropriate to speak of SMEs in the plural rather than use a generalised singular.

We take a particularly close look at the methods of approach that researchers use to tackle this heterogeneity (Section 3.2). After studying its anatomy or morphology, we also aim to identify the main results of European research

Table 1.3: Structure of private enterprises (excluding the primary sector), by size of workforce and by country (1996)

	Number of enterprises (in thousands)	Average size	Dominant size category*
Austria	220	11	SME
Belgium	800	5	VSE
Denmark	230	7	SME
Finland	205	5	LE
France	2 085	7	LE
Germany	3 440	8	LE
Greece	580	3	VSE
Ireland	80	11	LE
Italy	3 345	4	VSE
Luxembourg	15	12	SME
Netherlands	530	10	LE
Portugal	690	4	SME
Spain	2 335	5	VSE
Sweden	285	7	LE
UK	3 760	5	LE
EU	18 590	6	LE

*A country is said to be 'dominated' by very small enterprises, small and medium-sized enterprises or large enterprises respectively if very small enterprises, small and medium-sized enterprises or large enterprises account for the majority of jobs.

Source: Calculations made by EIM Small Business Research and Consultancy on the basis of Eurostat/DG XXIII figures (European Commission, 1998).

Table 1.4: Breakdown of employment by size of workforce and by country in 1996

	SMEs				LEs	Total	Total
	Very small enterprises	Small	Medium-sized	Sub-total			
	% of employment						(1 000)
Austria	25	19	21	65	35	100	2 470
Belgium	48	14	11	73	27	100	3 835
Denmark	30	22	18	70	30	100	1 590
Finland	23	16	17	56	44	100	1 030
France	32	19	15	66	34	100	15 310
Germany	24	20	14	57	43	100	29 090
Greece	47	18	14	79	21	100	1 585
Ireland	18	16	14	49	51	100	840
Italy	48	21	11	80	20	100	14 040
Luxembourg	19	26	29	71	29	100	155
Netherlands	26	19	15	60	40	100	5 295
Portugal	38	23	18	79	21	100	2 800
Spain	47	19	12	79	21	100	10 910
Sweden	25	17	16	59	41	100	2 030
UK	31	16	12	59	41	100	20 420
EU	33	19	14	66	34	100	111 405

Source: ENSR, 1997: 327.

on entrepreneurship, that is, on enterprise-creation practices and their contribution to economic dynamism and job creation (Section 3.3). A final section looks at the demographics of SMEs in an attempt to clarify their role and development in the current reorganisation of production systems (Section 3.4).

Part 4 focuses on *SMEs as a player on labour markets*, that is, the specific effects they have in terms of structuring employment, on both the quantitative (Section 4.1) and qualitative (Section 4.4) levels, and, more generally, the main factors determining their practices (Section 4.2). Particular attention is also paid to methods of using external labour, recruitment practices and SMEs' role in the occupational integration of young people (Section 4.3). Finally, a fifth section looks at European research on the development of self-employment (Section 4.5), particularly as regards very small enterprises [VSEs].

The aim of *Part 5*, on *the training practices of SMEs*, is to identify research on the use of vocational training – both initial and continuing – by SMEs (Sections 5.1 and 5.2)[4]. The perspective we have chosen also enables us to maintain our focus on the training/employment relationship and to articulate this new field of research with the former. At the same time, bearing in mind the needs of policy-makers, it is an opportunity to present some research on the main factors determining the demand for training in SMEs.

Taking note of research that indicates SMEs' disadvantaged position in terms of accessing and using the more institutionalised and external forms of continuing vocational training, we look at the body of research that attempts to identify the *specific contribution that small establishments make in terms of informal, in-house or 'on-the-job' training*, the assumption being, for example, that individual skills are not acquired only through structured training provision but also as a result of experiences in which mobility between and within enterprises plays a considerable role (Section 5.3). From this point of view, examination of practices and views concerning training in SMEs is an opportunity to rethink the traditional models of the training/employment relationship and question the rules governing the recognition and certification of skills acquired in a working situation alongside, in addition to or instead of accredited training processes (validation of occupational skills, job classification, etc.).

Taking a step back, the final section (Section 5.4) attempts to identify the new types of regulations that are currently emerging in relation to (initial and continuing) vocational training in most European countries. It emerges, among other things, that the shift towards a 'skills-based approach', work on the validation of skills acquired informally and a number of innovations currently at play might in many respects be seen as an opening of the door to vocational training within SMEs.

Finally, our general conclusion (**Part 6**) aims to draw the main lessons from this careful examination of the European literature by identifying the most useful points for public policies.

2. European literature under review: a risky but enlightening venture

What we are trying to do here might seem presumptuous, particularly since no previous research has given rise to such an attempt. However we do have close on more than 500 references works in our bibliography and we are not making any claims about being exhaustive or, still less, doing the work of the historians. We are not interested in going into detail; on the contrary, what we want to do is to achieve an overview and identify the most salient points that emerge from the available body of work, and especially those works that have attempted to look at the relationships between SMEs, employment and / or training.

Our reading of the literature has been far from superficial. For each country, we have tried

[4] We shall be abbreviating the terms 'vocational training', 'continuing training' and 'continuing vocational training' to 'VT', 'CT' and 'CVT', respectively, in the remainder of this report.

to develop an overall picture by identifying the most common themes or issues and tracing the major trends affecting them. We shall offer some working hypotheses that could be studied in greater depth.

2.1 France: a national tradition which does not favour SMEs

First, we shall look at the situation in France – not because we see it in a particularly favourable light but because, on the contrary, it seems that, of the five countries we studied, France is furthest from answering the questions associated with SMEs. This is largely due to the traditional predominance of large enterprises, both in industrial policy and in academic research. Yet France does not have the greatest concentration of large enterprises. Although the concentration is higher than the average for Europe of 15, it is lower than the concentration in, for example, Finland, Belgium, Germany, the UK and Sweden; we also know that the imbalance between large and small enterprises has more to do with sectoral features than national differences (European Commission, 1996, p. 34). So, the reasons for France's indifference to SMEs needs to be sought in socially and historically constructed images. Without claiming to offer a fully detailed analysis of the situation, we should simply like to mention two aspects here: public policies and research developments.

2.1.1 The institutional and academic predominance of the large-enterprise model

As J. Saglio (1995) has commented, the major reference for French public policy until the late 1970s was virtually always the large enterprise. It is in fact around this predominant figure that major modernisation projects have been organised and planned. It can be argued that reciprocal ignorance or a 'mutual aversion', doubtless caused by contrasting sociological positions, has long reigned in France between SMEs and national institutions. 'Public institutions saw SMEs as an archaic industrial world inhabited by untamed capitalists who had little respect for their social and fiscal obligations' and, 'in SMEs' eyes, the world of the State was inhabited by useless, unproductive bureaucrats who knew nothing of the realities of economic life and its constraints' (Saglio, 1995, p. 22). Moreover, the majority of SME managers have tended to be extremely distrustful of large enterprises and the various monopolies, which are always suspected – often with good reason – of colluding with the State.

At the same time, in academic research, SMEs have long been perceived as a hangover from the past. Other than in research by historians on early industry and a few scant references in historical overviews of industry, SMEs have virtually always been defined negatively or in terms of their shortcomings in relation to large enterprises[5]: they did not adhere to the rules of the division of labour, they were run more 'simply' and in a less formalised way, they were backward in terms of development, etc. In brief, they were too small and their economic role was deemed to be too insignificant to merit researchers' attention. So, an interest in SMEs was for fanatics, militants or those with a love for the exotic.

This would explain (or at least, this is our hypothesis) why, after this long period of lack of interest, the first works on SMEs that appeared in the late 1970s initially took the literary form of 'the essay' and a fairly utopian ideological position. So, small structures appear as improbable, paradoxical, akin to the social experimentation in new spaces ('country factories', self-centred development, alternative enterprises, etc.), based on ideologies that challenged major systems and the all-powerfulness of the Fordist-Taylorist model (on this point, see, among others, Chavanes, 1975; Chevalier, 1977; Gorz, 1980; Mendras, 1979; Rosanvallon, 1976, 1980).

2.1.2 Obsession with the modernisation of SMEs

Despite its significance and specificity, it would be a mistake to reduce the turning point of the 1980s to an academic curiosity

[5] In other words, 'non-large enterprises', to use the term coined by J. Saglio (1995).

536

for, as in most other European countries, it was at the very time when mass production and the big industrial conglomerates went into crisis (restructuring), when unemployment was rising and the economy was becoming increasingly tertiarised, that the movement to rehabilitate SMEs really began in France.

However, the social components of the French conception of SMEs continued to hold sway throughout the last decade and, therefore, right up to now. This would, in our opinion, explain the shift in the thinking of all France's economic and political institutions, all coming to focus on one notion: SMEs need to be modernised and rationalised. Subtext: we need to guide them towards the large-enterprise model. This point of view can be illustrated in many ways – by, for example, stressing the development of public aid or stigmatising decision-makers' recurrent voluntarism and concern for small structures (setting up science parks, an inclination to create industrial districts '*à la française*', etc.).

Throughout the 1980s and, therefore, right up to today, the research community has failed to escape this strong social trend. Apart from a few scattered and sometimes isolated teams, particularly those researching the craft industry or small traders (Zarca, 1986; Auvolat, 1982; Auvolat et al., 1985; Gresle, 1981), and, as we shall see, with the exception of some economists and sociologists specialising in 'industrial districts' and working under the auspices of the *Centre d'Etudes de l'Emploi* [CEE] and the *Groupe Lyonnais de Sociologie Industrielle* [Glysi], this community has – whether we like it or not – largely gone along with an approach that sees technological development and innovation as an instrument of modernisation and competitiveness for SMEs (Jacot and Lajoinie, 1988; Rosanvallon, 1986; Hollard et al., 1987; D'Iribarne, 1986; Maurice et al., 1986). Even if not every researcher has succumbed to the dogma of technological determinism that the decision-makers are always so quick to propound; if they note in general the spread of flexible technologies in small enterprises, especially in the machine tools sector; if they are quick to look at the issue of new technologies in relation to their social and organisation appropriation; it nonetheless remains that the point of reference they use to assess changes in production systems is still the large enterprise and mass production.

2.1.3 From tangible technologies to intangible technologies

Indeed, in the late 1980s and early 1990s, there was already a very gradual shift away from tangible production technologies and towards the intangible technologies of management, training and organisation. It is in this context that we need to see, for example, the works of Le Bas and Clerc (1988). Studying SMEs' attitude to automation in the mechanical-engineering sector, these authors noted (and deplored) the fact that 'hypo-firms' (the smallest SMEs) were resistant to automation, while 'large' SMEs were more structured and more in favour of it. In addressing the former, they stress the importance of external consultancy and training as 'driving factors' (p. 105) in the rationalisation of SMEs. A little later (Le Bas, 1989), they are back again: automation projects have more chance of being successful in SMEs if they are both coordinated with industrial strategy and based on properly managed training processes. These processes must cover not only technical content but also new standards of management, organisational routines, the anticipation of economic changes, etc. This 'broadening of the field' and mobilisation of all the players are termed 'industrial apprenticeship' and conceived according to the standards of large enterprises, as they are in virtually every other work based, for example, on Ministry of Industry statistics showing that the main factors determining SMEs' attitude to training are size – SEs with fewer than 50 employees 'train less' than enterprises with more than 200 employees – the age of directors and managers – on average higher in SEs (Bucaille and Costa de Beauregard, 1989; Debrinay, 1990), etc. Recently, of course, a number of works on investment and modernisation in SMEs have focused on issues relating to employment (Heraud and Forte, 1995), but they are far from representing the majority of recent research.

2.1.4 The relationship between SMEs and employment: a relatively recent issue

Despite a few high-quality trailblazers that are already rather old (Greffe, 1984; Baroin and Fracheboud, 1983; Dalle and Bounine, 1987), it is reasonable to say that this area of research is relatively new in France, as compared with the UK, Germany and Italy. The research coordinated by Greffe, Baroin and Fracheboud certainly provides us with all the ingredients we need for debate, together with a number of equally weighty contributions and equally inspiring subtitles: 'SMEs – potential employment reservoir' (X. Greffe), 'SMEs and employment in France' (D. Baroin), 'SMEs and job creation in France' (F. Eymard-Duvernay and M. Delattre), 'social relations in SMEs in France' (J.-Y. Boulin, J.-P. Huiban et al.), 'the unemployed – creating or recreating occupational activity' (S. Pflieger and F. Tabourin), 'which policy for SMEs?' (X. Greffe). There are also some similarly in-depth international comparisons: Belgium (A. M. Kumps and R. Witterwuklghe), Italy (S. Brusco and P. Garonna), the Federal Republic of Germany (W. Steindle), the UK (G. Gudgin and then D. J. Storey), the European Community (J. Morley) and even Japan (E. Leclerc) and the USA (D. Baroin).

In the main, however, none of this work has been followed through and, although academic output on SMEs' role in the current transformation of production systems is particularly abundant (see Part 2), research on their impact on the number, structure and content of jobs is only in its infancy (Courault, Trouvé, 1999). The same is true as regards the specific features of vocational training and the building up of professional skills and status in SMEs (see Part 5). Apart from the regular, annual comment on the lack of training, based on administrative statistics (Bentabet, Marion et al., 1999), and a few recent breakthroughs by a Céreq team as regards personnel management and training in very small enterprises (Bentabet et al., 1999), the field is essentially occupied by critical analyses of the 1971 law on continuing training and the difficulty of adapting it to the specific context of SMEs (on this point, see the works of E. Verdier, 1990b, c, 1991).

It is not for us to describe and explain these shortcomings in detail here. However, in addition to the chronic absence in France of ongoing relations between the world of research and occupational organisations (for the reasons mentioned earlier), one would very probably be able to identify some persistent divisions in the scientific community as regards SMEs. First and foremost, are SMEs really a subject for scientific research in France? Some researchers think not and are not afraid to say so, despite a logomachic work that argues to the contrary (Grasser et al., 1999).

2.1.5 Highly compartmentalised academic research

Evidently, in France more than in any other country, a considerable effort needs to be made if SMEs are not to be reduced either to a by-product of the development of major groups or to large enterprises 'in miniature' (Saglio, 1995). This is why it is difficult, in France, to break away from studying the major bodies of macrostatistics that define SMEs as residual forms of early industry by comparison with large enterprises, to recognise entrepreneurs' active role in the development of new managerial styles, and to move away from a definition that is too closely bound up with the traditional configuration of independent SMEs, and instead to focus on their inclusion and integration in various sectors, regions, networks or inter-enterprise competitive/cooperative relations, as in the case of the socioeconomic study of localised production systems. These three ways of distancing ourselves from the dominant models (of the large enterprise and the independent small enterprise) nevertheless derive from some relatively distinct currents of research.

On the one hand, it is certainly important to take account of Government documents that attempt to meet the need to know more about SMEs so that appropriate policies can be adopted. Examples are the regular reports on SMIs (small and medium sized industries) produced by SESSI *(Service des Statistiques Industrielles du Ministère de l'Industrie* [Industrial Statistics Service of the Ministry of Industry] 1995, 1999). By definition, however, these cover only enterprises in the industrial

sector with more than 20 employees. The same applies to INSEE's *Enquête sur les Petits Etablissements Industriels* [Survey of Small Industrial Establishments]. Researchers certainly do not make sufficient use of these major statistical sources. Mention might also be made of the recent implementation of a Dares[6] (*Ministère de l'Emploi et de la Solidarité* [Ministry of Employment and Solidarity]) programme focusing on SMEs (Dares, 1995).

On the other hand, with regard to academic research, we need to distinguish: *firstly*, teams of economists and sociologists (for example, the *Centre d'Etudes de l'Emploi* in Paris, Céreq and its research team on employment and training in SMEs, the 'Mutations des Territoires en Europe' Laboratory of the University of Montpellier, which focuses more particularly on SMEs' role in local development, and the *Groupe Lyonnais de Sociologie Industrielle*, part of whose remit is to study local SME systems), whose work could be analysed and cross-referenced to enable us to reconsider the enterprise model; *secondly*, the more openly management-centred approaches, associated in particular with the *Association Internationale de Recherche en PME* [AIREPME – International Association for Research on SMEs], of links between France (with a strong Montpellier/Metz-Nancy axis) and Quebec, the mainspring of an International French-Speaking Conference on SMEs[7]. However, the latter tend to concentrate more on identifying SMEs' microeconomic performance or on epistemological issues (Julien and Marchesnay, 1988; Marchesnay and Fourcade, 1997; Mahé de Boislandelle, 1998a, 1998b) than on SMEs' employment and training practices or, even less, on the effects of public policies on the development of SMEs. There is currently no interface between these two major groups (economists and sociologists on the one hand and managers on the other) (on this point, see Trouvé, 1999). The potential for the 'cross-fertilisation' of research on Very Small Enterprises has nevertheless already proved to be promising (Bentabet et al., 1999).

2.1.6 The various fields of research on initial and continuing vocational training

In the area of vocational training in France, we can distinguish various currents of scientific output. The first we are going to mention here are highly prolific but pay little or no attention to SMEs.

- First and foremost, there is an historical current (for example, Agulhon, 1994), whose major arguments all – or virtually all – point to chronic problems concerning the appropriate linking of 'technical', 'vocational', 'specialist' or 'skills-centred' training with the production system, because these forms of training have been socially devalued or perceived as routes to failure, because they have undergone massive decline over recent years (CAP-BEP)[8], because they lower standards (as in the case of 'Bac Pros')[9], because they generate new aspirations to pursue more general university studies (BTS-DUT)[10]. Like it or not, and despite recent attempts to rehabilitate these forms of initial training via systems of apprenticeship or combined training and work, this situation is the result of a sort of 'social pact' at national level (Trouvé, 1996b).

- Then there is a current that more or less comprises the works produced by Céreq and its associated centres[11] or offshoots,

[6] Dares: *Direction de l'Animation de la Recherche, des Etudes et des Statistiques* [Directorate for the Promotion of Research, Studies and Statistics].

[7] The fourth conference, organised by the Universities of Nancy and Metz, was held in October 1998.

[8] CAP: *Certificat d'Aptitude Professionnelle* [Certificate of Vocational Skills]; BEP: *Brevet d'Etudes Professionnelles* [Certificate of Vocational Studies].

[9] Bac Pro: *Baccalauréat Professionnel* [General Certificate of Vocational Education].

[10] BTS: *Brevet de Technicien Supérieur* [Higher Technician's Certificate]; DUT: *Diplôme Universitaire de Technologie* [University Diploma in Technology].

[11] Céreq: *Centre d'Etudes et de Recherches sur les Qualifications* [Centre for Studies and Research on Skills and Qualifications]. 10 place de la Joliette, 13 474 Marseille, Cedex 02.

comprising an immense reservoir of research on the relationship between training and employment and on occupational integration and transitions, linking them to the functioning of labour markets and in some cases taking account of issues concerning the transformation of organisations and production activities, from a national, regional and, more recently, a comparative and international perspective.

Some leading works mark out the first group, comprising mainly works produced by Céreq but also others, the common feature being their failure to take account of SMEs. We shall mention a few here, without any wish to be exhaustive and omitting the even more prolific editorial output of journals[12], collections, numerous articles, conference proceedings and sundry communications: Géhin and Méhaut (1993), Vernières (coordinator) (1997), Friot and Rose (directors) (1996), Rose (1998), Vernières (1997) and, particularly, Aventur and Möbus (1999), but also Tanguy L. (director) (1986), Coutrot and Dubar (1992), Nicole-Drancourt and Roulleau-Berger (1995).

- Three other fields seem worthy of mention and of being described in greater detail. These are Government publications, both in the field of initial training (particularly apprenticeships) and in the field of continuing training (particularly the figures regularly produced on the basis of '24-83' tax declarations); the rare but illuminating research on mismatches between the legal provisions covering continuing training and the situation of SMEs (works of E. Verdier); and finally, a recent spate of qualitative studies and case studies covering both practices and perceptions concerning continuing vocational training in SMEs and VSEs, and the relationship between training and employment.

[12] Particularly Céreq's *Formation Emploi* [Employment Training] and Dares' *Travail et Emploi* [Work and Employment].

2.1.7 Statistical data: consistent evidence of unequal access to continuing vocational training (CVT) organised by enterprises

The field of CVT is highly specific. In France, it functions as a compensatory device, a second opportunity for those who have been unable to obtain not only the *educational qualifications* that exercise such a 'tyranny' (M. Godet) throughout working life, but also the *skills* that, on a social level, determine the kind of jobs each individual might expect to get[13]. However, looked at from another angle, CVT is also a source of information on the ways in which enterprises make use of labour. It is in this latter aspect that government data cast particular light on SMEs' investment in CVT.

Among others, two major, complementary sources can be drawn on here: on the one hand, the general data published by the *Ministère de l'Emploi et de la Solidarité* (Dares, but also the *Délégation à la Formation Professionnelle* [Delegation responsible for Vocational Training]) and, on the other, Céreq's annual report on *La FPC financée par les entreprises* [CVT funded by enterprises].

- The former, which covers major 'aggregates', provides reference data on structures, changes in expenditure and financial transfers with regard to continuing training, either by type of expenditure (training in the strict sense, pay for trainees and relief on social security contributions, sundry capital investment) or by target group (young people joining the job market for the first time, jobseekers and groups with difficulties, people already in employment). In 1997, government figures showed that, in France, 'expenditure by

[13] We shall see later that the social and occupational functions of continuing training vary considerably from one country to another. For example, according to Vickerstaff (1992, p. 8), whereas it is typically seen as a response to the skills gap on the labour market in the UK, in other countries it seems to be vital to the effective use of labour (investment, prevention of wastage).

540

enterprises is equivalent to State expenditure (55 billion French francs)'. More than 80% of enterprises' expenditure is on *employee training* as part of a training plan or in the form of individual educational leave. The remaining 20% (10.4 billion French francs) goes on funding special employment and training contracts ('contrats de qualification', 'contrats d'adaptation' and 'contrats d'orientation'), and apprenticeships (Chanut and Baudequin-Gélard, 1999). Special training for *young people under the age of 26* 'accounts for 22% of overall expenditure, with more than half of this being spent on apprenticeships and a quarter on employment and training contracts' (or 'government-aided employment'). Finally, expenditure on training *jobseekers* and groups with difficulties accounts for 20% of overall expenditure on vocational training. The most recent figures indicate that, in very recent years, it is young people who have been the main beneficiaries of the increase in expenditure.

- The report produced regularly by Céreq is much more specific (see, for example, Bentabet E., Marion I., Zygmunt Ch., 1999) and enables us to compare training practices in Small Enterprises (with 10-50 employees) with those in larger ones. Of course, however, the data cover only 'official' training (that is, government-recognised training) organised by enterprises and therefore provide information mostly on more structured forms of CVT. This is why they have long indicated SME 'deficits' in this area, with the exception of 'length of training periods' (see Part 5, Table 5.4), in terms of level of financial commitment and rates of access to training by workers (8.3% for men and 10.4% for women in enterprises with 10-19 employees, compared with 56% and 49% respectively in enterprises with 2 000 or more employees).

Certainly, the past few years have seen a slight increase in SMEs' contribution to CVT. However, 'the category of Small Enterprises (10-50 employees) is having difficulty in rising above the legal minimum' (Bentabet, Marion, Zygmunt, 1999, p. 13) and the gap between this category and LEs remains constant. Finally, it is in sectors of activity in which SEs predominate that the indicators are weakest and training efforts least significant (BTP – building and public works, hotel and catering trade, agriculture, etc.). The official statistics thus regularly highlight inequalities of access to CVT, depending on size of enterprise.

2.1.8 The inappropriateness of legal provisions to SMEs

Verdier should be congratulated for having tackled this issue on numerous occasions and for linking it with consideration of the institutional conditions of CVT in France (Verdier, 1990a, b, c; 1991; 1999). He argues that the gaps in SMEs' contribution to CVT in France are largely due to the mismatch between the approaches supported by law and actual training practices in small establishments. His theory is nevertheless so central that we shall look at it again in more depth in Part 5 (Section 5.1).

2.1.9 The breakthrough of qualitative studies: SMEs between market and State

It would be unjust to end this rapid overview of training practices in SMEs in France without mentioning the new doors being opened by more qualitative analyses and case studies. Verdier blazed the trail with his works on the role of enterprise strategies in training practices in SMEs (1990b, 1991). Two more recent publications have followed in his footsteps: Bentabet et al. (1999) investigating the main factors determining training and personnel management practices in Very Small Enterprises in eight sectors of activity and proposing a model to reduce the extreme heterogeneity of the field, and Campinos-Dubernet (1999) following up a series of highly detailed reports on the relationship between training and employment in the metalworking and machinery industry, the plastics industry and the electrical and electronics sector.

Most of these works are amply commented upon in the rest of this report.

2.2 The UK: research on SMEs' contribution to employment and their place in the new model of vocational education and training (VET)

According to Atkinson and Storey (1994), most of the research during the 1980s on the relationships between small firms and employment in the UK focused on four main issues:

1. The first was to attempt to quantify job creation in small firms. Most of the research drew on the seminal work of David Birch in the USA (1979) on the relationship between the size of enterprises and their ability to create jobs. Numerous attempts were made to transfer Birch's methodology to the UK and other European countries and to verify whether similar results could be obtained.

   It is reasonable to say that this research focused on the total number of jobs, on *the quantity of employment*. According to Atkinson and Storey, it was usually based on the inferences that could be drawn from some very extensive but far from complete databases. Hence the many criticisms levelled at it, particularly as regards methodology (appropriateness of sampling techniques, variability of results depending on the point in the economic cycle, etc.).

2. A second category of research focused more on the *quality of employment* in small firms. For example, some authors continued to look at the nature of *industrial relations* in SMEs, trade union activity, the specific availability of employee training, pay and other benefits, and the application of legislation on employment and working hours. We need to remember that, during this period (1980s), majority politics aimed to free (or 'protect', according to Atkinson and Storey) small firms from trade union pressure and legislation on worker protection. The idea behind this was that more jobs would be created and unemployment levels would drop. This is why much research in the UK examined the influence of public policies on the changes affecting the structure, conditions and content of jobs.

3. A third focus of research was the spectacular increase in *self-employment*. In June 1979, there were 1.9 million people in the UK (7.5% of the working population) who could be deemed to be self-employed; by June 1990, this figure had already risen to 3.3 million, or 12.2% of the working population (Campbell and Daly, 1991).

4. In the late 1980s and early 1990s, research on employment in small firms began to be superseded. More and more researchers were examining the *interactions between small firms and local labour markets*. They looked at how small enterprises procured their workforce, how they were developing their management capacities, how they coped with the constraints of the labour market and, finally, how all of that might influence an enterprise's performance.

These are the four points we shall be examining mostly here, keeping as close as we can to Atkinson and Storey (1994).

2.2.1 The significance of small firms in creating new jobs

Most British research can be seen as an extension of Birch's work in the USA (1979) and the subsequent debate. We know that Birch always claimed that, during the 1970s, two thirds of the increase in job numbers in the USA could be attributed to small firms with fewer than 20 employees.

On the basis of the unprecedented boom in enterprise creation during the period 1986-1989, research in the UK also tried to demonstrate that small firms were a major source of job creation. For example, Gallagher and Steward (1986), Doyle and Gallagher (1987) and even Daly et al. (1991) claimed that very small enterprises (with fewer than ten employees) had created 500 000 jobs between 1987 and 1989. They added that this represented about half of net job growth over this period, even though enterprises of this size employed less than a fifth of the total labour force. Of course, they did not break this down by sector and their findings reflect a major concentration of small firms in the service

sector. They also noted that, in the case of employment in the manufacturing sector, small firms' contribution was probably less significant.

The first criticisms of Birch came from Armington and Odle (1982), who, using the same body of data, were unable to reproduce their predecessor's results. Their work was followed by many others, the best known being those of Storey and Johnson (1986), arguing that the overestimation of employment in SMEs had been caused by the poor quality of databases.

Johnson demonstrated on several occasions (1989, 1991) that the rise in the relative significance of SMEs in employment terms in the UK since the early 1970s was due more to the contraction of employment in large firms than to its growth in small ones: 'the increase in importance of small establishments may therefore reflect the decline in large firms, rather than the growth of small firms' (Atkinson and Storey, 1994, p. 6). Later, Brown et al. (1990) advanced the idea – taken up on numerous occasions since – that account had to be taken not only of gross job creation but also of new small enterprises going out of business and that the emphasis needed to be placed on whether or not the employment being created by small enterprises was durable.

Using some very different yet complementary lines of argument, all these authors agree that there is some doubt about the real contribution SMEs make to job creation. For most of them, SMEs' performance in terms of employment creation is dependent upon a small number of enterprises that experience rapid growth: these are Storey and Johnson's (1986) 'fast growers' or 'high-flying firms', which, although in the minority, have a considerable impact on results. This conclusion is now so widely accepted that, having been the champions of an overly generalising approach, Gallagher and Miller (1991) have been won round. In a comparative study of Scotland and South-East England, they were, for example, able to establish that the enterprises they described as 'flyers' represented 18% of their sample but accounted for 92% of jobs created. In their turn, Storey, Keasey et al. (1987) estimated that, for every 100 enterprises created in the early 1980s, by the end of the decade a quarter of them accounted for 50% of jobs created.

2.2.2 The controversial effects of government policies on employment growth in SMEs

These results are used by some researchers to feed the debate on policies concerning SMEs. Commenting on the Thatcherite policies of the 1980s, which gave indiscriminate support to small firms (reducing social security contributions, administrative constraints or trade union pressure in order to create an 'enterprise culture'), they show that these policies produced a very unequal development of employment among small enterprises. Some benefited, others did not. Furthermore, as Karlsson et al. (1993, pp. 7-8) incontestably argue: although the 'enterprise culture' supported by Mrs Thatcher in the UK 'was accompanied by a substantial increase in the total number of registrations of new enterprises (of the order of 30% between 1980 and 1990), similar growth also occurred in countries that did not follow the same vigorous policy (of removing State interference) [...] which would imply that policy incitements are not the only cause of the phenomenon [...] or that contradictory policies can lead to the same result'.

2.2.3 Research on the quality of employment in small firms

As we shall see later (Part 4), British researchers took an earlier and greater interest than their European colleagues in job quality and working conditions in SMEs. Like Brown et al. in the USA (1990), and using a number of objective indicators, they mostly focused on questioning the idyllic picture once depicted by the Bolton Committee ('in many respects the small firm provides a better environment for the employee than is possible in most large firms', 1971). Scott, Roberts and Holroyd (1989) argue, for example, that workers in small firms have terms and conditions of employment that are generally less favourable than those of workers in large enter-

prises, and it is now accepted that, although their level of job satisfaction might be higher, they have lower pay and earnings, less job security, less extensive trade union protection, more difficulty in accessing training and longer working hours.

Drawing on a longitudinal study of a sample of small and medium-sized enterprises, North, Smallbone and Leigh (1994) develop another argument: contrary to what might be expected, the SMEs included in their large sample did not make more use of a non-core workforce (part-timers, temporary contracts or homeworking) during the 1980s. In all these aspects, the typical practices of the sector were maintained. Here, too, the authors claim that changes in the structure and quality of employment in SMEs were concentrated in a small number of enterprises.

Let us leave aside the research on the spectacular success of self-employment, which was particularly prominent in the UK. We shall be covering this in Part 4 (see Section 4.5). For the moment, we shall focus on two other strong areas of British research: a study of the interactions between SMEs and the labour market and the even more original work on the relationship between small firms' strategic behaviour on the products market and their employment practices.

2.2.4 Interactions between the labour market and small firms

It is only very recently that British research has begun to take an interest in the complex relations between small firms and the labour market. In doing so, it has tried to solve three types of problem: Firstly, what specific contribution do SMEs make to the functioning of the labour market? Secondly and conversely, how does the labour market respond to SMEs' needs? And thirdly, what role do local labour markets play in SMEs' employment management?

❑ The first two questions have been addressed, in particular, by Atkinson and Meager (1994). In general terms, these authors note that small firms' relationship with the external labour market is more discontinuous, more irregular, less predictable and less open to systemisation than large enterprises' relationship with it.

The main results they obtain cast doubt on the received notion whereby SMEs usually have difficulty in recruiting workers. In fact, according to these authors, not all SMEs experience this problem, which depends upon the sector (whether or not a specialist labour market is involved), the skills required and, most importantly, the size of the enterprise. It is in fact when they are growing that small firms have recruitment problems. Their relations with the labour market become more frequent and more difficult. They have to enter into competition and organise their internal market. Also, the more recruitment problems a firm has had, the more it will tend to use formal methods of selecting new employees ('the more a business has experienced recruitment difficulties, the less likely it is to stick with word of mouth and other informal methods, and the more likely to supplement them, or indeed replace them, with more formal ones' (p. 72)). Conversely, it is easier for VSEs (enterprises with fewer than ten employees) to draw on available labour within the extended family or neighbourhood, without using overly sophisticated methods of communication and selection. This is why they complain less than enterprises with more than ten employees about the shortage of formal skills and qualifications, with the exception, of course, of VSEs in the intellectual services sector or areas requiring state-of-the-art technical skills.

Another finding: difficulties in finding what they need on the labour market are probably more common in fast-growing small firms than in typical small firms, and also more common in firms run by managers than in those run by owner-managers, who are strongly attached to their autonomy and power of control. The latter are still in the majority (65% owner-managers in Atkinson and Meager's surveys).

❑ Furthermore, British research emphasises the importance of local labour markets, distinguishing, in particular, the urban, semi-urban and rural environments (North,

Smallbone and Leigh, 1994). However, the approach, like that of Scandinavian researchers, seems to be more 'regional' than 'local' (Johannison, 1993; Davidsson, Lindmark et al., 1993) and, in this respect, differs considerably from the analyses conducted in countries such as France and Italy.

2.2.5 Competitive strategies and employment practices

Finally, we cannot complete this rapid sketch of British research on SMEs without mentioning the particular importance of the work conducted within the 'small business' sector itself. Drawing on longitudinal empirical surveys, which sometimes combine quantitative and qualitative methods, this concerns, in particular, the relations between small firms' market strategies and their employment practices (Reid et al., 1993; Reid, 1993). Indeed, we should not forget that analysis of the structure and dynamics of an industry is a vital part of any analysis of enterprises' strategic practices. Similarly, we need to remember that there are differences in economic viability within a given sector (measured by performance gaps in relation to the sectoral average), which are often greater than intersectoral differences. One might also hypothesise that differences in the employment practices of SMEs in the same sector can largely be explained by the differing strategic choices made by competitors (see Part 4).

We shall discuss research on the subject of vocational training in SMEs later.

2.2.6 Reforms of the education and vocational training system[14]

As regards education and vocational training, no European country has experienced as great an upheaval as the UK over recent years. Over the past 20 years, a whole series of reforms have come one after the other, sometimes in such rapid succession that some critics have seen it as a symptom of a very short-term policy and a lack of institutionalisation[15]. This is not the place to describe the various phases and the numerous programmes that have marked the period. They are, in any event, regularly described, defined and discussed in textbooks on the subject (Creagh, 1999), because changes in the British VET system have in many ways served, if not as a model to follow, at least as an indispensable reference for all the EU Member States.

'The levy arrangements of the 1964 Act were unpopular with small firms and their opposition to the measure, voiced to a large extent through the Bolton Committee of Inquiry into Small Firms in 1971, helped to modify the arrangements to the levy exemption system. The Industrial Training Boards were also felt by some to be organised by the big firms for the big firms; they were criticised as fostering expensive off-the-job training and not appreciating the merits of more informal on-the-job methods characteristic of smaller firms' (Vickerstaff, 1992, p. 9).

Instead, we shall be looking at research that has emphasised SMEs' role in the reforms, raising two complementary questions: what are the merits of the new programmes that have been adopted as regards SMEs? How have they been analysed and evaluated by researchers? The first question could be divided into two and would strictly speaking have two points of entry, depending on 'whether SMEs are [considered as] 'customers' or 'providers' in the training market place' (Hyland and Matlay, 1997, p. 131). In other words, we have two subquestions: *firstly*, how have the TECs [Training Enterprise Councils] and LECs [Local Enterprise Companies] (see Box 2.2) met SMEs' train-

[14] This part of the report owes much to M. Creagh, Lecturer HRM/Enterprise Groups, of the Cranfield School of Management, who selected the literature and drafted a summary (Creagh, 1999).

[15] 'Rapid and frequent policy change has itself been a policy, consistent with the emerging British Model of placing maximum emphasis on short-term appraisal of an institution's performance. With this has come a concomitant downgrading of the role of experience and of stable institutions which were likely to be seen as sources of rigidity and resistance to rapid change' (Crouch et al., 1999, p. 129).

515

Box 2.1: Industrial Training Boards and the SMEs

'*Industrial Training Boards* were national statutory organisations for training based on industries or commercial sectors. They were established under the 1964 Industrial Training Act and could levy firms in their sector and then use these funds to pay for training' (Vickerstaff, 1998).

Box 2.2: Development and delivery of Modern Apprenticeships [MAS]

'In the last thirty years various remedies for Britain's training problems have been tried. These vary from the Training Levy of the 1964 Act and the *Industrial Training Boards*, through Manpower Services Commission/ Training Agency sponsored schemes such as TOPs, YOP, YTS, YT, etc., to the current development of the Training and Enterprise Councils [TECs] (in England and Wales) and of the Local Enterprise Company [LECs] (in Scotland). TECs are to operate as local networks for gathering information on labour market needs, managing government training schemes and providing training and enterprise advice and support' (Vickerstaff, 1992, p. 1).

'As part of government's policy to recreate a market-led training system, the *TECs and LECs* were established during 1990-1991' (Parker and Vickerstaff, 1996, p. 251).

'*The T/LECs* were conceived as locally-based employer-led organisations [...]. They are organised as limited guarantee companies; the majority of their board members are business leaders and they are responsible for a sizeable range of government unemployment, training and enterprise schemes. [...] They are geographical rather than industry or sector-based' (Vickerstaff and Parker, 1995, p. 58).

'The *Youth Opportunities Scheme* [YOPS] was launched in 1978. This evolved into the *Youth Training Scheme* [YTS], which was launched in 1983 and was the heart of the government's training programme. It was a scheme for 16 and 17 year olds. It began as a one-year scheme but in 1985 it became a two-year scheme. In 1990 it became *Youth Training* [YT]' (Creagh, 1999, p. 4).

'*National Vocational Qualifications* [NVQs] are qualifications based on work experience whose purpose is to accredit skills deriving essentially from experience in the workplace. They are designed to be very flexible, without any compulsory programme or method of study. There is no fixed rule on length or place of training. These qualifications are subdivided into five levels, from basic level 1 to advanced level 5.'

Source: European Commission, Eurostat, Cedefop, 1997.

ing needs (this is the most common option, chosen, for example, by Vickerstaff and Parker, 1995; Parker and Vickerstaff, 1996; and, more recently, Vickerstaff again, 1998)? *Secondly*, what are SMEs' specific training needs and what role might they play in VET policies and strategies (this is the approach taken by Vickerstaff, 1992; Matlay, 1997; and Hyland and Matlay, 1997)? On closer inspection, these two methods of approach are not interchangeable for, whereas the first concentrates mainly on the appropriateness of public policies and their development, placing the emphasis on integrating young people and combating unemployment, the second gives preference to enterprise logics and SMEs' specific way of investing in human capital.

Originally, SMEs were certainly not a central focus of the policies defined by decision-makers. In general, it is undoubtedly easier to argue the structural lack of qualifications among the labour force, particularly interme-

diate qualifications[16], which is seen as the UK's main handicap in terms of economic competitiveness, together with the political will exhibited by the Conservative Government to do away with corporatist conceptions and trade union influence on bodies such as the Industrial Training Boards [ITBs], which was considered to be excessive. In the 1960s and 1970s, the ITBs were based on a tripartite approach ('government, employers and trade unions') and certainly, before being dismantled in the 1980s, they had some power of control over labour markets via apprenticeships, coordinating the training needs of the production apparatus (see Box 2.1).

Many of the programmes that have emerged since the late 1980s, however, particularly via the TECs and LECs, have placed the emphasis more explicitly on meeting SMEs' needs and dealing with the issues of local economic development[17]. In any event, it is these two aspects combined that are highlighted by Parker and Vickerstaff (1996), both by quoting a self-congratulatory official document: 'Employer involvement in education and training is being secured through TECs. We have now, for the first time, given leadership of training to top business people and other key local people and the power and resources to apply local solutions to local needs' (DES/DE/WO, 1991, paragraph 2.14), and by stating that 'TECs and LECs are relatively new mechanisms for trying to forge a policy alliance on training and enterprise issues in the micropolitical context of local business communities. The 'local' employer-led basis of TEC or LEC organisations has been seen by many as their major benefit over industry-based organisations such as the Industrial Training Boards [ITBs] in the 1960s and 1970s (the Industry Training Organisations [ITOs] as they have become)' (1996, p. 252).

[16] In 1988, for example, only 33% of British workers had a recognised qualification, as against 66% in Germany and a little over 50% in France (OECD, 1989).

[17] Meanwhile, during the 1980s, 'it has been acknowledged that small firms have a vital role to play in the wider attempt to regenerate the UK economy' (Parker and Vickerstaff, 1996, p. 252).

This is why, although most researchers acknowledge that it is too early to assess the long-term impact of the new structure of VET, a feature of their most recent work is to endeavour to forge an explicit link between vocational training and the SME issue.

So, what conclusions can we draw from the wealth of literature? For purposes of clarity, we must distinguish between research on *the integration of young people*[18] and research on *SMEs*. They do not necessarily represent two periods, since the various types of reforms very often overlap, but they are at the least, two different approaches, two registers of application, or rather, two lines of interpretation. The former focus more on the *processes of occupational integration*, while the latter are oriented more towards *SMEs' needs* or the need to make the new system more likely 'to reach the SME sector' (Parker and Vickerstaff, 1996, p. 255).

2.2.7 Occupational integration and SMEs

According to Lefresne (1999, p. 198), the first group of measures, comprising the YTS programme that later became YT, should clearly be interpreted as an application of 'the policies to increase the flexibility of the labour market' that were conducted during the 1980s. It is marked by 'massive, unprecedented State intervention in the field of vocational training'. In her thesis, offering a European comparison of occupational integration systems and public employment policies, she concludes, in particular, with regard to the UK:

- that the various programmes concerning the integration of young people have achieved 'varying levels of performance': in 1996, only half of the participants completed a training scheme, whilst a third obtained a vocational qualification (*Labour Market Trends*, December 1997). According to Lefresne, there are three reasons for these mediocre results: the lack of legiti-

[18] ... Leaving aside programmes concerning adult jobseekers.

macy of the system, which is based on the will of the Government but in which the other players (particularly trade union organisations) are little involved or excluded; the counterproductive effects of Workfare[19], which pushes young people into registering for training schemes without having thought through their plan for the future; and the perverse effects of the method of managing programmes run by the TECs, which favours short-term results ('Output-related funding')[20];

- young people's general disillusionment with apprenticeships: whereas the old YTS still had 400 000 participants in 1989 and saw its apogee in 1986-1987, with 60% of young people aged 16-17 finding a place on the labour market, YT had no more than 276 000 participants in January 1992 and 230 000 in January 1997.

  As regards the issue of SMEs, Vickerstaff adds with irony that 'YTS has been attractive to small firms but not always for training reasons' (1992, p. 9) and, a few years later, that 'the legacy of Youth Training [YT] has for many had the combined effect of undermining the image of 'training' for young people and of 'scheme' for employers' (Vickerstaff, 1998, p. 218). And many other authors attribute the main gaps in the programme to policy failings (Hodkinson et al., 1995, 1996; Hyland, 1994, 1996).

- It was mainly in the late 1980s and early 1990s that the subject of SMEs appeared more explicitly in the new structure of training – or at least, that is what the literature suggests – particularly via the TECs and LECs, real 'institutional pillars of reform' (Lefresne, 1999, p. 207) and points of convergence between employment and vocational-training policies. The same period saw a new phase of regulation, marked by a wish for decentralisation, devolving powers and responsibilities to local level as a way of combating 'a tendency for small business owners to be generally sceptical of the benefits of government involvement in industry' (Vickerstaff, 1992, p. 1). Hence, 'the government wants employers to take the lead in improving the quantity and quality of training and seeks to devolve responsibility for the delivery of government-funded training schemes and enterprise initiatives, as far as possible, to local areas' (idem).

  At the same time, a whole series of Government reports emphasise the central role of SMEs in economic competitiveness (DTI, 1994 and, in particular, 1996). This is all the more significant in that, in the UK as in many other countries, recent interest in SMEs has focused mainly on their economic role and much less on their methods of human resources management or their training practices (Pettigrew et al., 1990; Hendry et al., 1991, p. 2).

2.2.8 The limitations of a market-based approach

In their empirical studies and critical analyses, which essential elements do researchers point out as regards the TECs and LECs?

- It was Vickerstaff (1992) who first noted, on the basis of some research conducted in Kent, that, despite the TECs, the vast majority of SMEs were still not aware of the programmes available to them. Also, they still thought of training solely in terms of external class-based tuition and not as a much broader activity. Finally, the author raises a formidable question about the use of skills in SMEs: 'whether many of the skills shortages reported by employers [in the SMEs] are amenable to training solu-

[19] That is, a mechanism whereby the granting of unemployment benefits is dependent upon participation – at whatever cost – in employment-policy programmes.

[20] 'The criteria of efficiency used are constructed on the basis of the number of candidates undergoing training, the number of NVQs awarded for every hundred trainees completing their course and the cost of training. This means that no account is taken of the nature of the training provided, or its level, or the type of training body involved.' This means that training tends to be of a low level, accentuating the segmentation of the labour market, and with marked differences from one TEC to another.

Box 2.3: ITOs and TECs: a disappointment for the smallest enterprises?

Of the many providers of training for SMEs, the ITOs and TECs have played a particular role over the past few years. The ITOs are agencies based on a sectoral approach. They are the successors of the Industrial Training Boards. Like the TECs, they subcontract training provision to a very large number of providers in the private and public sectors, which might be prejudicial to any real awareness of SMEs' training needs. According to a survey conducted by Curran et al. (1996), only a quarter off SMEs had made use of the ITOs' and TECs' training services and the amount of contact was clearly correlated to size of enterprise, with the smallest being least likely to use these services. The reasons the authors give for this discrepancy, together with SEs' distrust of external training, are cost and their inability to define their training needs or decide upon training strategies. As regards ITOs' and TECs' programmes, the authors point out that they have inadequate resources to reach a large number of enterprises and overcome the resistances of SME managers.

tions or whether in fact the problems lie elsewhere, namely in inflated or discriminatory selection criteria' (p. 8).

Vickerstaff and Parker (1995), looking at the 104 TECs and LECs then in existence, offered an initial assessment of their ability to meet the specific needs of SMEs. They found five major obstacles 'which could affect success in 'reaching SMEs'', which is the main challenge for 40% of them: managers' traditional scepticism about government initiatives; the lack of human and financial resources; the varied needs of small firms; the isolation of SMEs (not belonging to business networks); and a system of aid for enterprises that is too fragmented and not very transparent.

The same authors return to the subject a year later (Parker and Vickerstaff, 1996), listing and scientifically discussing one by one all the criticisms levelled against TECs and LECs during their first five years of existence (1990-1995): 'unelected and unaccountable' local bodies, overly dependent upon the government, without any leadership on the part of employers, "dumping ground' for the government's unemployment policies', inefficient because they are too small or, on the contrary, too large and therefore too distant from the local communities they are supposed to serve, etc. It is organisational mechanisms, management methods and TECs' 'closeness to the customer' – that is, SMEs – that are particularly questioned.

These two authors, together with others (CLES, 1992; Vaughan, 1993; Abbott, 1994), note that small enterprises are virtually always under-represented[21] on the Administrative Boards of TECs and that industry tends to prevail over services. Among the factors favouring TECs' adjustment to SMEs' needs, they paradoxically note the significance of the networks they have been able to establish with ITOs [Industrial Training Organisations], which are sectoral structures that were reformed after the disappearance of the old ITBs [Industrial Training Boards], but also the extreme diversity of the historical and territorial conditions influencing their operation.

So, there are no end of diagnoses, all of which are also possible avenues of research for those interested in SMEs – right through to works on the difficulty of adjusting NVQs to small firms' needs (see Box 2.2). In our opinion, they are very important even if, at the moment, most of them end in failure (IES, 1995; Robinson, 1996). Some authors concentrate

[21] Vickerstaff (1992) notes that 'two-thirds of the Board must be private sector employers who are chairmen (sic!), chief executives or the top operational managers at local level of major companies' (Training Commission, 1989, p. 6).

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on how their distribution in the SME world might be improved (Hyland and Matlay, 1997). Others condemn the rigidity of the system: 'the main problems are the high cost of training, the inflexibility of the NCVQ framework, and a mismatch between industrial training needs and officially endorsed VET policy' (Hodkinson et al., 1996). Finally, for Hales et al. (1996, p. 2), there is more chance of NVQs being adopted if enterprises already have a 'training culture' and he feels that NVQs' place in the reform should be reconsidered.

Despite the considerable national effort already invested in it, we can see, from systematic analysis, that the reform of the education and vocational training system in the UK still has a long way to go. In any event, it has still not managed to induce SMEs to commit themselves, clearly and definitively, to the path of training (see Box 2.3), and many researchers are close to feeling that a return to the 'levy system' or occupational regulations might ease the dysfunction of an approach that is totally market-oriented. But, of course, SMEs are not always victims: 'Is training on the small business owner/manager's agenda?' wonders Matlay (1997).

2.3 Italy[22]: the basic model of the district and vocational training as 'productive socialisation'

Without wishing to ignore the macrostatistical data, produced mainly by ISTAT[23], research on the specific issue of small enterprises in southern Italy (De Vivo, 1997) or systematic comparisons between large and small enterprises (Contino and Revelli, 1992), which are far less abundant in Italy than they are elsewhere, we have chosen to focus mainly on SMEs organised at district level, not only because their stylised nature (though still open to many interpretations) meets our purpose, but mostly because of the unique nature of their contribution to scientific analysis of SMEs, the labour market and training.

About thirty years ago (in the 1970s), a model of economic development that formed the basis for all later research on SMEs in Italy emerged in a number of Italian regions (Tuscany, Emilia Romagna and the Marches in central Italy; the Veneto in the north-east, etc.). During a period when the Fordist model reigned supreme in large industries, we find some effective forms of production organisation that owe nothing to this dominant model, nor to that of the traditional small enterprise, often perceived as a hangover from the past, nor even to the subcontracting model, whereby SMEs are constantly subjugated to large enterprises.

2.3.1 The SME theory is indissociable from the model of the district

The main figure of this alternative model is illustrated by the spread and concentration of a very dense fabric of SMEs in and around medium-sized towns away from major industrial centres, specialising in particular fields (textiles, ceramics, engineering, leather and footwear, etc.) and forming real production systems whose performance astonishes every commentator. This generic figure is defined variously in the literature, depending on the author, as the archetype of 'extensive industrialisation' or 'peripheral industrialisation', 'local production systems' or 'area systems' or 'SME systems' (Garofoli, 1983a, b), but it is the concept of 'industrial districts' that has been most widely adopted and has served as a common 'clue' and point of reference for most of the research conducted in Italy.

It was during the late 1970s and early 1980s that a series of authors from various disciplines, who might be seen as the founding fathers, established the main elements of the theoretical model. These included the economists Becattini (1975, 1978, 1979, 1987), Brusco (1982, 1986), Fuà (1983) and Garofoli (1981, 1983a, b), and the sociologists Bagnasco (1977, 1985, 1988), Trigilia (1986) and Paci

[22] This section owes much to the expertise of B. Courault of the Centre d'Etudes de l'Emploi and his 'selective, analytical bibliography' on *employment and vocational training in SMEs in Italy*, CEE, July 1999, 58 pp.

[23] *Istituto Nazionale di Statistica* [National Statistics Institute], via Cesare Balbo 16, Rome.

(1979, 1980). An initial ILO publication, coordinated by Pyke et al. (1990), later tried to give an account of this first wave of research.

2.3.2 The social structuring of markets as the basis of the model and its reproduction

To a greater or lesser degree, all these trailblazing researchers were inspired by the thinking of A. Marshall, particularly his theory of 'single markets' (1919), and believed that economic functioning and success do not simply obey the laws of competition but are also largely explained by forms of cooperation and solidarity set up at territorial level by SME managers. These substitute 'area effects' for traditional economies of scale. This means it is precisely these social and political conditions, which rest upon a whole collection of unwritten, shared standards, values and rules, which have to be identified to explain the functioning and overall performance of industrial districts.

We shall pass over the twin origin and reasons for the expansion of industrial districts, which undoubtedly lie, on the one hand, in some very ancient roots, going back to the first industry, that explain why the particular industrial economy of the district developed mainly in regions with a strong commercial, urban and craft industry tradition – itself strongly interlinked with family structures of agricultural origin – and, on the other hand, in the 'production decentralisation' movement led by Italian employers since the 1970s to counter the many crises facing the Taylorist organisation of labour. Since this latter period, which has served to accelerate the process, industrialists have been externalising an increasing proportion of their output, drawing on specialists and technicians in their own workshops, whom they have been encouraging to set up on their own account[24].

The former course of action makes it possible to account both for the social conditions of the collective mobilisation of players and skills, via the 'qualities of craft industry entrepreneurs', and for the extreme flexibility of the labour force in industrial districts. The latter, which might be seen as an economic redeployment operation, similarly liberates the entrepreneurial abilities of former skilled employees, who depend upon the local community in sharing out the various phases of production. What emerges is an interpretation of the industrial district as comprising two levels 'in osmosis' (Becattini): firstly, it is an economic network formed by relations among enterprises belonging to the same industry but specialising in complementary phases of production. At the same time, and perhaps more importantly, it is a social network of workers who are capable of shifting their position on the labour market very quickly and frequently, of setting themselves up in business and employing other workers, in short, of becoming heads of enterprises and, from one day to the next, becoming employees again and blending into the collective context of the market of skills that small enterprises draw on or reject, according to a constant flow within the region (Solinas, 1982).

This latter form is essential to an understanding of the SME system, since it shows that, in Italy, the economic regulation of localised systems is inseparable from the functioning of the labour and employment market, just as it is inseparable from forms of local social and political structuring (as pointed out on many occasions by Trigilia, 1986, 1988). Hence, although they might exist, issues concerning vocational training in SMEs tend not to be apparent, since, in the context of industrial districts, the occupational mobility (between enterprises or between different statuses) and job flows that are a part of the

[24] This historic shift did not herald the death of large industry, as Piore and Sabel (1984) had a little too naively predicted. Indeed, whilst maintaining its economic importance, 'it is not as powerful as it was in structuring society and determines the lives and futures of a smaller number of people' (Benko et al., 1998). At the same time, however, it needs a stable organisational base, which seems to be offered by the districts. "Have it done' became the password of large enterprises and replaced the old rule that said it was more economical for the phases and intermediate operations involved in manufacturing an end product to be conducted in-house' (Courault, 1999).

enterprise dynamic serve as a means of providing training and capitalising upon the skills of the labour force at local level (Solinas, 1982, 1996). In this respect, although the industrial district is a specific model of SME development[25], it is also a kind of total production combination whose coherence can be understood only if, in the same analysis, we combine elements that would normally be separate in other countries, such as SMEs, the regions, widespread industrialisation, local development, employment and training.

2.3.3 The 'three waves' of research on SMEs

Having established this theoretical base, we can, with Courault (1999), distinguish three waves of research that have dominated the Italian literature on SMEs over the past few decades:

- initially, the period of theoretical development that we have just described: this began in the late 1970s and continued throughout the 1980s (see, in particular, the works of Brusco and Bagnasco);

- then the 1980s saw the parallel emergence of a sort of second generation of researchers who produced a multitude of local case studies and served to test out the consistence of the general model. Thus, we have the works of the 'Florentine school', following in the footsteps of Becattini (Garofoli, Sforzi, Dei Ottati, Bellandi, etc.), the 'Modena school', following in Brusco's footsteps (Russo, Solinas), and the 'Turin school', comprising Bagnasco, Trigilia and all the rest (Fuà, Capecchi, Paci, etc.), not forgetting their many successors, or Piore and Sabel's work (1984), which brought the model of 'flexible specialisation' onto the international level;

- finally, since the early 1990s, we have been seeing the development of new works that are reinterpretations, rereadings and reassessments, either of the potential developments of the canonic model of the district in the face of today's major macroeconomic transformations – and particularly the processes of globalisation and deindustrialisation – or in the light of the district's internal capacity for regulation.

Three likely ways forward are usually mentioned: permanence of the model, despite changing forms (Varaldo and Ferrucci, 1997); the decline or even disappearance of an exceptional model that has now become obsolete (Bologna and Fumagalli, 1997); and, somewhere between the two, gradual integration of the model in an economy comprising networks that spread beyond the local area. The latter option is taken up, in particular, by Rullani and Romano (1998), who pose the question of the internationalisation of districts, applying the post-Fordist theory not only to large enterprises (like P. Veltz in France) but also to SMEs. In plain language, these authors believe the districts will open their doors to the outside world and that this process will be marked by, for example, the delocalisation of production, investment in distribution outside the region, and even, in some cases, takeovers by multinationals of all or some of a district's enterprises. These changes would, in turn, imply new forms of regulation in the internal functioning of districts, which it will be important to study (particularly hierarchisation, the emergence of leading firms, etc.).

On this question of current alternatives to the district, one concept seems to be more or less generally accepted: both the permanence and the transformation of the original paradigm of the district. Whereas most of the original elements will remain, they will be subject to constant reorganisation. For some authors, however, it is social values that are shifting the least in the reorganisation of the districts. Indeed, these values are linked to a set of 'basic institutions' that are capable of 'enduring a whole range of historical circumstances: the family, religious or political communities, school, informal groups' (G. Becattini, in Belfanti and Maccabelli, 1997).

At the same time, a number of research works are looking at individual issues in depth: those

[25] B. Courault (1999) notes that Italians speak interchangeably of the 'district model' or 'district-organised' SMEs.

552

of Bologna and Fumagalli (1997), for example, on the unique position of craft industry in entrepreneurial dynamics and the conditions for reproducing the model; or Paci (1999), taking another look at the sources of 'interpersonal trust' in localised SME systems; and not forgetting Capecchi's original contributions on training (1995), a domain that is still the poor relative in research on SMEs in Italy, outside the schema of the 'production socialisation' essentially linked to the processes of mobility, as we mentioned earlier. Demonstrating the effects of vocational training on the entrepreneurial dynamic and local development, this author in particular demystifies the notion of a chronic mismatching of vocational training with SMEs' needs[26]. Moreover, he emphasises the return effects of flexible specialisation on business apprenticeship.

At the end of this overview of the literature, we can conclude that Italian researchers' interest in SMEs has never waned since the late 1970s. Whatever their discipline (industrial or labour economics, history, sociology, etc.), it is continuity that predominates, based on an especially robust theoretical model that has been persistently reinterpreted or reanalysed, particularly in the light of a plethora of regional or local commentaries. Here, we are touching on the specific and unique nature of the Italian model of the SME.

2.3.4 Think industrial development before training policies

Yet, it would be wrong to believe that it has always been so. Capecchi (1995), whose aim was to rewrite the history of Italian sociology in the light of the process of industrial development and training, notes that she was initially influenced institutionally by the American research of the 1960s, which argued that there could be no industrialisation process without concentration and large enterprises. Whilst the model of the large enterprise and mass industrialisation predominated, a little as it did in the more resolutely Fordist France, the issue of vocational training remained secondary: '[indeed] from the viewpoint of the large enterprise, how is the relationship between industrial development and training policies interpreted? The answer is very simple: a sufficient condition for industrial development is the existence of a small number of specialists (highly specialised technical personnel and engineers) capable of coordinating the huge amount of work entrusted to workers solely responsible for performing tasks of execution' (Capecchi, 1995, p. 358).

In other ways, however, the approach adopted by the industrial districts has also long made it impossible to think of vocational training as a specific, priority issue or as an independent subject of research. Why? The answer is tackled in a number of works, such as those of Calza Bini (1995).

2.3.5 'Training' or the 'socialisation of knowledge'?

In integrating the education/employment relationship in research on and analyses of the labour market in Italy, Calza Bini acknowledges the thematic significance of territorial diversity and production decentralisation in research into the economics and sociology of work in Italy. However, he notes that 'the education/employment relationship is apparently not taken into consideration in the various models of development of the 'Three Italies' and is particularly underestimated in a number of analyses of the success of the 'Third Italy' and the failure of the Mezzogiorno' (1995, p. 379). In other words – and this comment could also be applied to French research on 'localised industrial systems' or 'SME systems' – whilst 'resources in terms of human capital' are seen as the basis for the social construction of the models, analysis in terms of jobs and training has long been neglected, with the emphasis being placed on analysis of production organisation and enterprise models (particularly of the small enterprise).

[26] On the basis of a study he conducted of Emilia Romagna in 1983, the author notes that 'the regions that have experienced very high levels of industrial development, which have been all the more astonishing in that they were unexpected, have succeeded in absorbing everyone leaving school with a certificate of secondary education, and also of proving that graduates can move out of paid employment and set up their own businesses' (1995, p. 360).

In the ideal/typical case of the industrial districts, we can see that the education/employment relationship in Italy has been neither a social issue nor a subject of specific research. Because the model implies evidence of socialisation and the acquisition of skills, both at work and in day-to-day relationships: 'in this situation, education for work takes place much more via the social environment of the community or the family environment, where the culture of experience and memory of know-how are shared, than via educational structures' (Calza Bini, 1995, p. 380). It is the deep sense of *professionalism à l'italienne*, that is, a form of employability that rests less on the institutional validation of skills (as in Germany or France) than on social recognition of the experiences accumulated by individuals, workers and small employers[27].

2.3.6 Regional differences in unemployment levels and the new challenge of the integration of young people

It is, of course, rising unemployment, particularly among young people[28], and growing awareness of regional disparities that are, somewhat belatedly, going to place the issue of the training/employment relationship at the centre of social concerns and scientific research. These are a result both of the crisis in the model of major Fordist concentrations in northern Italy and the opening up of regional economies (and particularly district economies). Going beyond a strictly quantitative reading of the problems on the labour market, a whole series of empirical works attempt to analyse not only the socio-territorial and family factors in the phenomenon of underemployment, but also the effects in terms of 'de-socialisation', leading to 'de-skilling' and the disappearance of traditional methods of apprenticeship (Pugliese and Altieri, 1990; Mingione, 1992; Calza Bini, Mingione and Pugliese, 1993; Pugliese, 1993). They distinguish, for example, the young people of the Mezzogiorno who have no access to employment, unless they can make use of networks of social relations or because of the lack of industrial production structures, from the overqualified young people in urban centres and northern Italy, whose new expectations are out of line with the supply of work.

So, a whole range of social mechanisms are coming into question, with the relationship between training and forms of occupational socialisation playing a central role. Hence, running parallel to these new advances in research, the social partners' recent commitment both to combating the extreme fragmentation of the vocational training system and to reforming the labour market, particularly via the introduction of special provisions for the integration of young people (greater flexibility of employment regulations and the adoption, in 1983, of the '*contratto di formazione lavoro*' [CFL – work training contract]). In this new shift, it is paradoxically (given their position in society) not SMEs that are the privileged beneficiaries of new policies (as is the case in, for example, the UK), but rather population groups with integration problems, that is, the unemployed or even 'young people, women and people from southern Italy' (Jobert, 1995, p. 275). However, we must not forget that, in Italy, the regional bases of vocational training are not being questioned and that, of the 500 000 or so young people who were employed under work training contracts every year in the late 1980s, nearly half were taken on as trainees in the industrial sector and 70% in small enterprises with fewer than 50 employees (Bulgrelli and Giovine, 1988).

2.4 Germany: the historic role of the '*Mittelstand*'[29] in regulation of the labour market and the training/employment relationship

If an SME theory (German: KMU = *kleine und mittlere Unternehmen*) is possible out-

[27] Most of the research stresses this weakness of institutional standards in the Italian model of vocational training (Campinos-Dubernet and Grando, 1988; Lefresne, 1999, pp. 239-256).

[28] In 1995, 74% of unemployed people in Italy were under the age of 30.

[29] References to the German body of scientific research were gathered by J. Reindl and M. Fecht (1999) and processed by H. Reineke, to whom we should like to express our thanks.

side Italy, it is in Germany that we need to look for it. We are unlikely to find one anywhere else, and certainly not in France, as we saw earlier. It derives from a very old conception of the SME as the basis of 'the social order'.

2.4.1 SMEs: an economic reality that is inseparable from social history

The term '*soziale Ordnung*' (the social order) used by many authors is particularly strong and needs to be retained, because it largely explains the historical importance of the '*Mittelstand*' (roughly: middle stratum[30]): with its origins in the pressure groups that had a decisive impact on public life during the 1930s and 1940s (Scheuch, 1976), and prolonged beyond 1945 by the creation of many institutes of research on small and medium-sized enterprises that have survived to this day, this tradition makes SMEs – and particularly medium-sized enterprises – a pillar of the macropolitical regulation that functions alongside or above market forces. Just as much as being an economic reality, the SMEs – or rather, the *Mittelstand* that is its highest expression – is an (internal and external) place of social integration, for which F. Marbach produced a theory long ago (1942). Contrary to Schumpeter's and Marx' predictions of the late nineteenth century that SMEs would purely and simply vanish, wiped out by large enterprises and monopolies, Marbach suggested that the development of society and the social balance are guaranteed precisely by these intermediate bodies (the '*Mittellagen*'; intermediate strata). The SME is, of course, a place of work (*Arbeitsplatz*), but it is also a privileged place of socialisation (Scheuch, 1976, p. 318).

Not one significant German publication on SMEs mentions this earlier work. Not one provides an overview of the ebb and flow of work dedicated to them. Less empirical than that of British researchers, the point of view taken by German researchers is virtually always connected with social history: up until the 1980s, they tell us, it was the model of the large enterprise that predominated in the works of economists and industrial sociologists still inspired by Marx' and Schumpeter's prophecies about the disappearance of small establishments. During this period, SMEs were seen as a residual and retrograde form of economic development (Scheuch, 1976); since the middle of the last decade, however, difficulties in getting out of economic crisis and the changes that are affecting production systems (particularly the growth of the tertiary sector) have turned SMEs into 'bearers of hope' ('*Hoffnungsträger*') or even the 'main driving force behind structural change' ('*Träger des Strukturwandels*') (Büchter, 1998). As well as examining SMEs' specific features, research simultaneously or successively focused on their economic prosperity and their ability to solve the problems of underemployment. In general, this second period of euphoria and idealisation is denounced in the most recent German literature, being replaced by a more moderate view of the real contribution SMEs are making to modern economies (Hilbert and Sperling, 1993).

2.4.2 ...but a neglected subject of research prior to the 1980s

Despite their deep roots in collective representations, or perhaps even because of these ideological origins, SMEs have not captured the attention of researchers in the social and economic sciences in Germany any more than they have in any other country, with the exception, perhaps, of the craft industry sector. More often than not, they have remained in the margins of the dominant model of the large rational organisation that was at the time considered to be the only path (*Schrittmacher*) to technical, economic and social modernisation. They were perceived as the outmoded production structures of a past era ('*Residuen einer vergangenen Epoche*').

This is why, during this period, when any research was done on SMEs, it could not help being somewhat mean-minded and condescending about their shortcomings. At least, that is the approach reported by Scheuch (1976), who goes on to denounce the '*Massengesellschaft*' (mass society) and to defend and celebrate SMEs. He tries, for example, to

[30] Self-employed and employers of SMEs

demonstrate that, compared with large enterprises, relative pay in small establishments is not much lower (but is he talking about real small enterprises or 'large SMEs' in the German style?), that the number of skilled workers (*Facharbeiter*) is higher and that SMEs are more innovative. In an astonishingly modern text, he also notes that the 'mixture of enterprises of different sizes in the economic structure is surprisingly consistent' ('*die Art der Mischung von Betriebsgrößen erweist sich als erstaunlich konstant*', p. 308), that in many areas there is no direct competition between SMEs and large enterprises, that the flexibility of small production lines makes up for any disadvantages in terms of costs, that the expected standardisation of tastes has not happened, and that what is actually happening is a 'parallel development of mass demand for a number of goods combined with growing differentiation' ('*eine parallele Entwicklung zwischen Massennachfrage für eine Anzahl Güterkategorien kombiniert mit zunehmender Differenzierung*'; Scheuch, 1976, p. 314).

2.4.3 From vindication to the identification and analysis of unique features

This way of thinking re-emerged in the mid 1980s, which saw a real rehabilitation of SMEs in the world of research. The many reasons for this rediscovery have been abundantly described and are in the main associated with changes in market conditions, the saturation of mass demand and 'the shift from sellers' markets to buyers' markets' ('*die Umwandlung von Verkäufer- in Käufermärkte*') (Hilbert and Sperling, 1993, p. 19), and a growing need for flexibility and adaptability, which gives SMEs a competitive advantage.

The 'new prosperity of SMEs' is, then, a reflection of their unique potential, which Leicht (1995) – like Sombart before him – explains in terms of their role as '*Marktspezialisten*' and '*Marktlokalisten*' (market specialists and market localists), enabling them to occupy a place in the market that large enterprises find difficult to access or of little interest. This is why small firms are particularly successful in craft or personal services and manufacturing, which require a high degree of specialisation, a high level of professionalism and an ability to solve clients' individual problems because of strong decentralisation. This is the *segmentationist* theory, to which we shall return later and which simultaneously explains the re-emergence of SMEs and the maintenance, or even strengthening, of structures devoted to mass production.

However, in the mid 1980s, under the influence and convergence of Piore and Sabel's theories (1984) on the one hand, and Kern and Schumann's (1984) on the other, German researchers, like their counterparts in most European countries, were pushed into adopting a more *generalist* position, linking the new rise of SMEs with the worldwide breakdown of the Fordist model and the virtually universal re-emergence of small production lines, and announcing the emergence of a production system that does away with Taylorist labour division.

Whatever the case, there is certainly a link between the paradigmatic shift in forms of production organisation and rationalisation and the renewed significance of small and medium-sized production units (Manz, 1993), and this turning point is a period of euphoria with regard to SMEs, mainly because of the employment potential they are assumed to have. They become paragons of virtue: tendentially closer to the market; more client-oriented; they are assumed to have considerable needs in terms of skills; they might promote a renaissance of continuing training or a reactivation of regional and local development policies; they might play a role in regenerating structurally disadvantaged regions; and might even be able to support a new conception of investment in human capital (Büchter, 1998). In brief, to use the title of a publication by K. Aiginger and G. Tichy (1984) 'the greatness of small firms ' ('*die Größe der Kleinen*') again

On the scientific level, researchers are trying to get away from the discourse of 'failure' and develop studies that are more clearly centred

on the *unique characteristics* of SMEs. Analyses, of course, focus on the microeconomic dimension. In addition and more importantly, however, we see a new interest in their role as social integrators. Although they apply different management criteria (Pfohl, Kellerwessel, 1990), they also represent 'another social world' (Kotthoff and Reindl, 1990) of which the categories of managerial theory (mostly drawn from the large enterprise model) fail to take sufficient account (Kotthoff, 1993). This same author also wonders: are SMEs really organisations? ('*sind Klein- und Mittelbetriebe überhaupt Organisationen*?') (Kotthoff, 1993, p. 234). Not necessarily.

To begin with, contrary to the functioning of large organisations, SEs' functioning depends mainly upon the personality of the owner/manager of which it is 'a reflection of his person' ('*das Spiegelbild seiner Person*', according to Gantzel, quoted in Kotthoff, 1993, p. 235), hence a marked bent in German research for sociological typologies of SME managers. Also, they are more permeable to the environment and enjoy no great political or public power. Their existence is precarious and their life span relatively short. This means that, if SMEs are acting in a situation in which their market power is limited, they cannot organise the market in their favour, as the big monopolies can. They therefore need to *adapt* rather than *plan*: 'Small entrepreneurs' limited ability to influence and shape the market means they have to use approaches that are very different from strategic planning' ('*die geringe Fähigkeit der kleinen Unternehmer, den Markt nach ihrem Bilde zu beeinflussen und zu formen, zwingt sie zu einer vom strategischen Planen sehr verschiedenen Verhaltensdisposition...*') (Kotthoff, 1993, p. 238). Their unique strength lies in pragmatism, experimentation, improvisation, extremely rapid reaction to change, instead and in place of the 'intellectualising', analytical and abstract procedures that are common in LEs.

2.4.4 From euphoria to realism

The turn of the 1980s, therefore, saw a complete reversal of approach. Faced with the '*reflexive Modernisierung*' (reflexive modernisation; Manz, 1993), which imposes a slimming programme on large enterprises incapable of reacting quickly enough to new environmental conditions, the 'backwardness of SMEs' becomes an advantage, particularly because of the new importance of socio-organisational innovation. So, can SMEs be seen as a new 'path of industrial modernisation', a possible point of passage towards post-Fordism (Dohse, Jürgens, Malsch, 1985)?

In the early 1990s, however, this positive image of SMEs begins to crack and look more like a 'fantasy' (a '*Wunsch-Konzept*', according to Hilbert and Sperling, 1993, p. 192) than a genuine radical break with the dominant processes of industrialisation. This is what authors like, for example, Manz (1993) try to demonstrate, drawing on empirical research on the processes of technical and organisational innovation in SMEs in the machine tools sector. According to Manz, there is undoubtedly a very close link between the renaissance of SMEs as bearers of hope and the profound crisis in the Taylorist model of rationalisation in large organisations. This notwithstanding, however, SMEs are not mastering all the new requirements of modernisation, particularly at the 'socio-innovative' level.

Preindustrial structures of domination (patriarchy, authoritarianism, etc.) are still very present in SMEs, preventing the democratisation of social relations. With the exception of the socioeconomic configurations present in the well-known industrial districts '*à l'italienne*' (though they too are threatened by the new forms of capitalist accumulation), these structural and cultural shortcomings end by neutralising SMEs' competitive advantages. The 'people-centred' and 'return-to-work' production alternatives that had been hoped for (Brödner and Pekruhl, 1991) are thrown into question by the way in which markets actually work. For example, in seeking to identify the potential for technological and social modernisation of SMEs in the machine tools sector, an example of the '*Mittelstand*', Manz (1993) discovers some far more complex hybrids between the Taylorist workshops and those where group work and small

production lines confirm the reskilling theory so dear to Kern and Schuman. Moreover, in some cases, the use of new information and communication technologies [NICTs] is leading to a rise in the number of white-collar workers, accentuating the division between design, preparation and planning and execution of work. In brief, SMEs do not enjoy sufficiently unequivocal conditions for socio-organisational innovations that break with Taylorist rationalisation practices, even in the machine tools sector.

During this same period, this kind of disillusionment can also be seen in another series of works – for example, those of Hilbert and Sperling (1993). These authors, who studied 225 enterprises in four segments of the manufacturing sector (timber processing, textiles and clothing, machine tools, electrical and electronics industry), conclude that, quantitatively, it is, in the end, enterprises whose autonomy (*'Manövrierfähigkeit'*) is the most limited and entrepreneurs who see collaborators more as a problem than a potential that are in the majority! Thus we come to a *'KMU-Realität'* (SME reality; Büchter, 1998).

2.4.5 A special way of dealing with the diversity of SMEs: the 'segmentationist' theory

Not all SMEs are in a favourable position to offer a credible, lasting alternative to mass production. This is the great relativist discovery of the 1990s, not only in Germany but also in other countries. Firstly, as Kotthoff (1993) comments, the challenges vary from one sector and industry to another. For example, although the number of enterprises in the service sector has increased, it has fallen in the industrial sector (Leicht and Stockmann, 1993; Sorge, 1996). In the timber-processing and furniture-manufacturing industries, for example, SMEs are often highly dependent on central purchasing organisations. This means their challenge is 'to become more autonomous within that dependence' (Kotthoff, 1993). Similarly, in the textiles and clothing industry, there is growing competition from countries with low-cost labour. Conversely, it has often been felt in Germany that the engineering and machine tools sector was a model for innovative and flexible SMEs.

Nevertheless, from another perspective, the fact of belonging to a particular sector neither inexorably condemns an enterprise to decline nor unequivocally guarantees its success, because the sector's influence is not totally deterministic. SMEs' situation also depends on their strategic position and orientation, in other words, on their managers' disposition. Their chances do not depend solely on 'hard facts' but also on 'business mentality', which is a decisive factor. For example, are they focusing on product innovation or increased productivity and economies of scale? Are they trying to maintain their closeness to the end client and their autonomy, or are they giving preference to subcontracting? Are they targeting niche markets or mass markets (Kotthoff, 1993, p. 238)?

This is why it is helpful to take a[n] approach that we shall call 'segmentationist', like the one suggested by Leicht (1995), which shows that the success of small enterprises in the same sectoral environment varies depending on whether they are operating on a market on which they are in competition with large enterprises or whether, conversely, they are operating on segmented markets on which enterprises of varying sizes can coexist by working with a different efficiency potential.

Just like the organisational models of the large enterprise, there is no 'one best way' for SMEs, and SMEs are not necessarily a good example for large enterprises to follow. There are many possible paths of development, say Hilbert and Sperling (1993, p. 194). The regional environment is also vital, and SMEs that are established in the more industrialised regions have the best chance of success (Büchter, 1998). All these elements mean that, in the latter half of the 1990s, German researchers began to identify not so much SMEs' 'shortcomings' as their limitations – for example, their lack of human resources and capital (Simons, 1997) or their increasingly precarious position in subcontracting relationships, particularly in the automobile sector (Fieten, 1995; Koch and Strutynski, 1996).

558

2.4.6 The controversy around new information and communication technologies [NICTs]

This rapid overview of the German literature on SMEs would not be complete if we failed to mention an issue already raised in our discussion of the situation in France. Simultaneously with the new realism that marked research in the late 1980s and early 1990s, the literature changes direction and becomes marked by the question of the modernisation of SMEs in the face of, in particular, the pressure of foreign competition on costs and the globalisation that imposes new forms of rationalisation. Some approaches might be normative and focus on the organisation of production: '*Produktionsplanung*', '*Steuerungssystem*', '*Innovationsprozesse*' and, particularly, '*neue Technologien*' (production planning, regulation system, innovation processes, new technologies). Might these new technologies give rise to new non-Taylorist concepts? Are they a factor in the modernisation and emancipation of SMEs or, on the contrary, are SMEs – and especially those with fewer than 100 employees – being particularly sidelined by them?

Here again, we cannot talk in generalisations. Many researchers stress the *reality* of the deficit in financial and information resources (Modrow-Thiel, Rossmann, Wächter, 1993; Hilbert and Sperling, 1995), particularly for SEs with fewer than 100 employees, and they note that enterprises with more than 100 employees are more open to NICTs (Hilbert and Sperling, 1995; Wittstock, 1990). Once again, SMEs in industrialised regions are in a more favourable position because they can draw on local and regional provision of technological advice, since the level of technico-organisational penetration depends on the sector and manufacturing processes involved.

However, one result is fairly clearly established and is of very great significance here: the SME sectors in which employment growth is strongest are, in particular, the craft industry ('*Handwerk*'), construction, maintenance and repairs, and installation activities – precisely areas that are traditionally very difficult for new technologies to penetrate (Büchter, 1998). In brief, SMEs do not need to be 'high-tech' to succeed or to create a large number of jobs.

2.4.7 SMEs in the restructuring of the industrial apparatus of the new Länder

Finally, we shall focus on a unique feature of German research: in the updating of analyses concerning the need to increase the regionalisation of institutional support for SMEs, an especially important place is reserved for SMEs' role in the integration process of the new *Länder*. We know, in particular, that the dislocation of industrial combines ('*Kombinate*') in the former East Germany has given rise to the creation of a multitude of SMEs. Whereas, in the days of the GDR, 90% of workers worked in 270 combines, there are now 460 000 SMEs, employing 3.1 million workers (Semlinger, 1995).

Most of the research indicates that two processes have taken place, one after the other: first, a shift towards privatisation and the breaking-up of large conglomerates; and then the development of Government-aided enterprise creation. Enterprises that emerged as a result of the former process have survived better than those created under the latter and have provided more jobs. On the other hand, several works show that the failure of newly-created enterprises is no greater in the East than it is in the West (Hinz and Wilsdorf, 1998; Brixy and Kohaut, 1998); that sector is a powerful determinant; and that, with the gradual harmonisation of SME development in the East and West, it is regional differences that are the most important (Baunach and Schmude, 1998). Hence the idea of developing targeted aid to suit the individual regions. Also, managers' level of skills and occupational experience seem to be decisive. What emerges as a general rule, however, is that there are many possible strategies and paths to success. There is no prevailing model (Brussig, 1998).

2.4.8 Structural change and SMEs' role in constructing skills and qualifications

As in other countries, there is no shortage of macrostatistical data on vocational training,

both initial and continuing, in Germany. These data are regularly drawn up by the BIBB[31] and are mostly coordinated with the European FORCE programme. They cover initial vocational training (*'Berufsausbildung'*); the dual system of apprenticeship (*'das duale System'*); adult training (*'Weiterbildung'*), both vocational and non-vocational (*'berufliche Weiterbildung'* and *'nichtberufliche Weiterbildung'*); and *'AFG-geförderte Weiterbildung'*[32], whether this is organised by the enterprise (*'Betriebliche Weiterbildung'*) or in the form of individual continuing training (*'individuelle Weiterbildung'*), according to a particularly complex structure that is described and explained by, among others, Alt, Sauter and Tillmann (1994). Some very interesting data are also to be found in the *Berufsbildungsbericht* (annual report on vocational training) produced by the BMBW (*Bundesminister für Bildung und Wissenschaft* [Federal Office for Education and Science], 1992, 1998).

There are also works specifically devoted to SMEs' practices as regards vocational training. As part of their contribution to this report, Reindl and Fecht (1999) drew up a list that includes, in particular, the recent works of K.-H. Schmidt (1984a), Büchter (1998), Faulstich (1992), Leicht and Tur Castello (1998) and Mendis (1991), as well as numerous other research papers or theses. Generally, Reindl and Fecht believe that 'SMEs and, in particular, craft enterprises, have always provided above-average quantities of vocational training. They train far more young people than they need and can later employ' (1999, p. 15). This means their objective role is very often to supply large enterprises with skilled labour.

Despite all this, SMEs' practices are always severely criticised: 'SMEs tend to exploit young people instead of training them'. Moreover, 'nowadays people have doubts as to whether the training level is adequate to fulfil new technological and social requirements'. According to the authors, much of this criticism derives from excessive use of criteria drawn from the large enterprise model: 'training systems and planning, apprentice workshops, theoretical instruction, teaching staff trained in VET. The fact is, however, that SMEs do not necessarily train more badly, but that they train differently' (idem, p. 15). From this viewpoint, it should be possible to argue that training of human capital 'tends to be more highly skilled in SMEs than in large enterprises. The specific production models in small enterprises (small series, individual manufacture, rapidly changing production programmes, the need to respond flexibly to market fluctuations, etc.) necessitate skilled, versatile employees.'

In examining the contradiction between two conceptions of SMEs – one placing the accent on their inadequacies as regards the qualitative appropriateness of their staff and their unattractiveness to more highly skilled workers; the other perceiving them as the main driving force behind innovation and job creation – the works of Leicht and Tur Castello (1998) are an example of an entire German literature on this subject. One of their hypotheses (verified) is *that SMEs' needs in terms of skills* are closely dependent upon the industry in which they operate.

2.4.9 Skills and qualifications structures and globalisation

Generally speaking, the level of skills and qualifications (particularly formal qualifications) enjoyed by SMEs' workers has risen over recent years. Of course, SMEs still have fewer university graduates (*'Akademiker'*) than large enterprises (p. 51), but there are some SMEs in which the recent rise in the level of skills and qualifications has been greater than in large enterprises: particularly in 'modern' sectors, among 'global players' (p. 13), in some small units that have become subcontractors to large enterprises undergoing reorganisation, in SMEs in the services sector that are highly intellectually intensive, and in self-employed activities or the liberal professions (*'Selbständige, Freie Berufe'*). By

[32] AFG: *Arbeitsförderungsgesetz* [Law on the promotion of work].

[31] BIBB: *Bundesinstitut für Berufsbildung* [Federal Institute for Vocational Training], Berlin and Bonn.

560

Table 2.1: Breakdown of trainees and training rates per size of enterprise – 1996 (National figures; old Länder)

Size of enterprise	Trainees (%)	Employees (%) (1)	Training rate (2)
1-4	11.1	8.8	6.9
5-19	27.7	18.3	8.3
20-49	13.1	13.2	5.9
50-199	17.8	21.6	4.5
200-499	10.8	13.5	4.4
> 500	18.5	24.7	4.1
Total	100	100	5.5

(1) Number of employees paying social security contributions.
(2) Percentage of trainees of the total number of employees.

Source: Bundesanstalt für Arbeit [Federal Employment Office]; own estimates, Ifm Mannheim.

contrast, there are still many SEs in sectors and markets that do not require high levels of skills or qualifications (hotel and catering trade, commerce, hairdressing, etc.) or which are slowing down (textiles, leather, etc.). However, we should not overemphasise the supposed effects of globalisation on skills structures, which is actually affecting only 2-12% of SEs, depending on the industry to which they belong. Also, the service industries and craft sector, in which small enterprises predominate, are less affected by globalisation than by new information and communication technologies, which are having a positive effect on the development of their human capital (Falk and Pfeiffer, 1998). It is moreover impossible to evaluate the quality of the labour factor in SEs simply from the point of view of technological modernisation, which would immediately relegate traditional craftsmanship to the status of 'a relic of ancient times' (p. 9).

Another significant conclusion emerges from the works of Leicht and Tur Castello (1998): in Germany, at the very moment when the dual apprenticeship system is experiencing a degree of disaffection[33], it is precisely initial vocational training *rather than continuing vocational training* that is being best adjusted to the needs of small enterprises (and particularly craft enterprises). At the same time, it is in small enterprises *rather than large enterprises* that the knowledge and know-how acquired through apprenticeships are proving to be most 'useful' (*'verwertbar'*).

On the former point, in 1996, small enterprises – most of them craft enterprises – with fewer than 20 employees took on 39% of all apprentices, even though they accounted for only 27% of the total employed population. In addition to this, small enterprises train twice as many workers as they need (in 1992, they employed 30.8% of skilled workers and had taken on 57.8% as apprentices, whereas large industry, which accounted for 30.8% of skilled workers, had trained only 19% as apprentices)[34]. It might therefore be argued that, on the quantitative level, small enterprises' contribution to the initial training of young people outstrips their needs and that, in Germany, the intensity of training via apprenticeships lessens with the size of enterprise (see Table 2.1). Also, on the qualitative level, the knowledge and know-how acquired

[33] For example, in the old *Länder*, the demand for apprenticeships fell by 39% between 1984 and 1994 and supply fell by 31% (or 503 000 places) over the same period. This crisis is usually attributed, at least in part, to the tendency for young people to pursue general, university studies.

[34] According to a survey conducted by the *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) [The Institute of Employment Research] of the *Bundesanstalt für Arbeit* [Federal Employment Service], cited by Kucera (1997, p. 66).

through apprenticeships seem to be more 'usable' in small enterprises than they are in large ones (Strohmeyer, 1998, quoted in Leicht and Tur Castello, 1998, p. 34, Schaubild 3). This is what emerges from a survey conducted by the BIBB and IAB[35] over two periods (1985-1986 and 1991-1992).

Leicht and Tur Castello summarise this point of view: 'while there has been a steady increase in the number of employees in SMEs with an apprenticeship or similar qualification since the 1970s, in large enterprises their numbers have greatly decreased again during the recession. (...) In many branches of the production industry in particular, SMEs remain the shrinking refuge for skilled workers' (1998, p. 80).

On the second point, there is no doubt that the acceleration of technological and economic change is causing a permanent devaluation of the human capital acquired by SE employees during their initial vocational training, which confirms the crucial importance of continuing vocational training. Indeed, over recent years, more and more employees have taken part in training programmes. By this criterion, however, the rate of participation in SEs is still lower than in LEs (p. 38, Figure 4). It is also lower in the craft industry and commerce than it is in industry, other services or the liberal professions. Finally, the smaller the enterprise, the greater the difference between the need identified and workforce participation in continuing training, in other words, the difference between needs and actual participation in continuing vocational training is always more marked in SEs than in LEs... and these differences are all the more marked in some industries (p. 41).

2.4.10 SMEs: stakeholders in the crisis and in the restructuring of the vocational training system

Of course, all these elements are the product of an historical social and institutional compromise. That compromise has however now entered a phase of disequilibrium, in which young people leaving the training system and SMEs themselves have become main stakeholders: *the former*, because of their growing inclination for long, full-time training courses and for disciplines that tend to take them into large enterprises (management, bank administration, insurance, marketing, etc.), but also because of their increasingly marked tendency to leave the enterprises in which they have done their apprenticeships – often SEs – to take jobs in larger enterprises and, finally, because of the difficulty more disadvantaged groups (unskilled, the *'Ungelernte'*) have in accessing the system of apprenticeship; *the latter* (SMEs), because they are indirectly up against the increasingly selective attitude of large enterprises[36] as regards young people's skills and qualifications, which means they are left with the least skilled and qualified candidates. 'The integration vocation' of SMEs is not being questioned; it is being 'displaced'. Indeed, a definite split is appearing in the dual system, which was based on the potential continuity and mobility of trained, skilled workers' career paths in small enterprises. The risk is that this split will accentuate not only the inequalities between small and large enterprises but also the dualism of the labour market.

This is why, in Germany as in many other countries (see Part 5), the interaction between employment policies and the policies guiding vocational training is becoming increasingly evident (Schömann, 1995). It is in this context that we need to understand the adoption of the German law on the promotion of work (*'Arbeitsförderungsgesetz'*) of 1985, whose purpose was to make the employment status of young people coming out of the apprenticeship system more flexible (use of fixed-term contracts, part-time working, disconnection between young people's initial training and jobs offered, 'exchange

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[36] Indeed, large enterprises are increasingly trying to attract young people who have an *'Abitur'* or students from the *'Fachhochschulen'*, to the detriment of young people with lesser qualifications.

programmes' that enable large enterprises undergoing restructuring to make former apprentices available to craft enterprises, etc.) and to prevent the occupational exclusion of young people least likely to gain access to apprenticeships. However, by contrast with the situation in other countries, these 'new employment regulations' linked to vocational training are still subject to heavy collective regulation, particularly via negotiated collective agreements, usually at industry level (Lefresne, 1999. p. 289).

2.5 Spain: lots of SMEs – little research

It is a known fact that Spain is one of the European countries with the highest density of SMEs ('PYMES'). However, short of taking a closer look and searching beyond a bibliography that is shorter than those for the other countries studied here (some fifty references, works and articles over the last decade), the least one can say is that research on the three issues of SMEs, employment and training is not very advanced. However, we need to note three salient features:

2.5.1 Works on the economic role of SMEs

There are many works on the place and function of SMEs in the Spanish economy and its integration in the European Community (Pérez Gonzalez C., 1997), or in the shift towards globalisation. However, it is virtually always their microeconomic performance that is examined (Camisón Zornoza, 1996a and b; Fernández et al., 1996; Montoya Sánchez, 1997). In this field, it is mainly strategic concerns that have held researchers' attention since the early 1990s (Churruca et al., 1995; Maqueda Lafuente, 1992; Lorenzo Gómez and Sánchez Pérez, 1997).

For example, several empirical studies seem to confirm that there are greater competitive differences between enterprises in the same sector (intra-sectoral differentiation) than between enterprises in different sectors (Fernández, 1993). It is moreover extraordinary to note that this dimension (strategic behaviour) is covered by major statistical works (Impi, 1995, pp. 59-113, see also, in particular, the use that can be made of the annual ESEE survey that has been conducted since 1990 – *Encuesta sobre Estrategias Empresariales* [Survey of Business Strategies]), as is the coordination of human resources management[37] and enterprise strategy. Most of the research constantly returns to the triple dimension of competitiveness: the general economic and institutional framework, the structure of the sector, and strategic choices at enterprise level (Serra Peris, 1996; Aragón Sánchez and Sánchez Marín, 1998). It is also by no means sure that the good results (profitability, operating margin, etc.) at micro level are reflected in a better competitive position at national level in Spain. In fact, the opposite seems to be true (Camisón Zornoza, 1996b).

2.5.2 SMEs at the centre of new labour market regulations?

Another unique feature: the (rare) studies on SMEs' contribution to employment virtually always cover both the kind of jobs involved (particularly the type of contracts of employment used – an important issue in Spain in recent years in terms of the flexibility and growing insecurity of jobs) and the characteristics of the workforce (age and length of service, level of training, etc.: Impi, 1995 and, in particular, Para et al., 1995). Mention should also be made of some recent research on human resources management and training as factors in SMEs' competitiveness (Aragón and Sanz, 1997; Ferrer Ortega, 1999), but researchers tend to have difficulties in finding points of anchorage in analytical models outside that of the large enterprise (Aragón Sánchez and Sánchez Marín, 1998). Finally, it is no surprise to find some regional studies, including, for example, García Ordóñez' study of Andalusia (1997). There are some interesting scenarios that are worth comparing with regionalised approaches in the UK and Scandinavia.

2.5.3 Government research

Our body of reference also includes many publications on national and regional (Autono-

[37] In the British sense.

mous Communities) policies applying to SMEs in Spain (Ipmi, 1995, pp. 115-168; Ice, 1998), and documents of a more administrative nature on provisions, financial instruments and advisory aids for SMEs[38].

Generally speaking, apart from these references, one might note and/or deplore the lack of major scientific studies on SMEs, and particularly medium-sized enterprises, in Spain (Clifford and Cavanagh, 1989). This is all the more striking in that Spain is one of the countries (together with Greece, Portugal and Italy) in which SMEs have the most important role in the production apparatus, representing close on 80% of total employment (European Commission, 1998).

3. The role of SMEs in the transformation of production systems: social and methodological diversity

What does research on SMEs do to reduce or deal with the extreme diversity of its subject? How does it account for the role and development of SMEs in the current reshaping of production systems? What are the main factors determining the demographic dynamics of SMEs? What are the main lessons to be drawn from the most recent research on enterprise?

These are the questions we shall be trying to answer in the first section of this part of our report.

3.1 A generic 'SME', or SMEs in the plural?

The first question that any discussion of SMEs comes up against is how to define its subject. Between the nominalist optimism adopted by the European Union (1996)[39], whereby SMEs are to be defined purely in terms of their size, that is, the size of their workforce, and a relativism that, by multiplying the other available variables ad infinitum, risks diluting the subject to such an extent that it becomes unrecognisable, the middle path is indeed narrow and full of difficulties. What we have to accept is that 'there is no standard, scientific, universally accepted definition of small and medium-sized enterprises' (Eurostat, 1996, p. 13).

3.1.1 A subject with unclear definitional boundaries

Although most of the statistics, and particularly comparative statistics, now adhere to the 'European standard' (with enterprises with fewer than 250 employees being deemed to be SMEs) and its segmentations[40] (as in the case of, for example, data from the European SME Observatory, ENSR, 1996, 1997), we know that the criterion of size is inadequate. However, even though this criterion has been criticised, especially by researchers, it can serve as a 'provisional concept', a 'preconception', which is a useful and definite tool for much research: inadequate, then, but essential.

In most cases, therefore, it is size that is taken into account because 'there is always a close

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[39] Strictly speaking, the recommendation published by the Commission in the Official Journal of the European Communities (L 107/6, 1996) on adopting a common definition of SMEs recommended including two other criteria: turnover (less than ECU 40 million) or balance sheet total (less than ECU 27 million) and economic independence. However, given the difficulties involved in obtaining sufficiently detailed, standardised statistical information on all the EU Member States, it is not always possible to take these latter two criteria into consideration (ENSR, 1997).

[40] That is, '*Very Small Enterprises* (hereinafter referred to as VSEs) with fewer than ten employees, including enterprises with no employees, that is self-employed people; *Small Enterprises* [SEs] with 10-49 employees; and *Medium-Sized Enterprises* [MEs], with 50-249 employees'. This means that, still according to the same definition, enterprises with 250 or more employees must be deemed to be *Large Enterprises* [LEs].

Table 3.1. Classification of firms by size (employment numbers) in several OECD countries

	Eurostat	F, D, Jap	N, CH	UK, DK, FIN	A	E	I	OECD
VSE	0-9	1-49	1-20	1-50		-	1-9	0-19
SE	10-49					0-49	10-99	20-99
ME	50-249	50-499	21-99	51-200	10-100	50-499	100-499	100-499
LE	250 +	500+	100+	201 +	101 +	500 +		500 +

link between enterprises' size and some of their practices' (Savoye, 1994), and it is, of course, the enterprise (and not the establishment that is part of a group) that is the statistical reference unit. However, the accepted size varies over time and space: in France, for example, until recently, statistics might have included as SMEs enterprises with as many as 499 employees (INSEE, 1994), like in the USA. Furthermore, whereas in France, Germany and Japan, enterprises are deemed to be small firms if they have 1-49 employees, the figure drops to 1-20 employees in Norway and Switzerland. Medium-sized firms have a workforce of 50-499 employees in France and Germany, but the figure drops to 51-200 employees in the UK, Denmark and Finland, 21-100 employees in Norway, and 10-100 in Austria.

It is, therefore, impossible to ignore the extreme diversity in the field. What is the relationship between a Very Small Enterprise [VSE] of the craft industry type and a medium-sized industrial enterprise? What is the relationship between an independent, privately-owned Small Enterprise [SE] and an SME that is part of a group or franchise network? What is the relationship between an SME in the manufacturing sector, which might well have a hundred employees, and an SME providing consultancy services for enterprises, which will only very rarely have more than 50 employees?

This diversity itself rests upon a whole range of criteria and dimensions that are revealed by most of the research (Cross, 1983; Dunne and Hughes, 1990), which, whilst deepening our knowledge of SMEs, paradoxically help to muddle the definition. For example, should we give a special place to craft enterprises, particularly as regards employment and training, by cross-referencing the size and purpose of the enterprise or its owner, as suggested by an examination of the German literature and the repeated investigations of the European SME Observatory?[41] Do we need to include the criterion of independence in the general definition of SME and should independence be defined in legal or financial terms (for an enterprise to be deemed to be an SME, the European Commission recommends that 'it may not be 25% or more owned by a large enterprise or jointly by several large enterprises')? This definition is used by, for example, Varyam and Kraybill (1992), with their notion of 'ownership', and by Duchéneaut, in his extensive case studies (1995, 1996). But then do we run the risk of ignoring the current dynamic, whereby SMEs (and especially SMIs) are being integrated, in various ways, in larger groups or networks of enterprises? For example, the 1980s saw an increase in the number of franchises (Stanworth, 1988; Stanworth and Purdy, 1994; Fried and Elard, 1997).

Then there is sectoral differentiation, which – as we shall see later – often proves to be the most pertinent; so pertinent, in fact, that authors like Curran et al. (1991) do not hesitate to include it in their basic definition of SMEs, together with size. In addition, of course, other criteria demand more subtle segmentations

[41] It should be noted that, in Germany, the craft industry is the subject of special national legislation ('*Handwerksordnung*' No 127 of 28 December 1965) and included 127 occupations in 1994, with 623 000 enterprises employing 5 138 000 workers, which is equivalent to 8.2 employees per enterprise, as against only 2.5 per enterprise in France and 2.3 in Italy (ENSR, 1996, p. 102 et seq).

and are mentioned by many researchers. For example, with regard to the industry concerned (Kotthoff and Reindl, 1990; Leicht and Stromeyer, 1995), the age of the enterprise (Evans, 1987), or its strategic position in relation to the products or services market (Bentabet et al., 1999; Trouvé, 1999). Finally, also 'the notion that the small firm sector was an homogeneous entity, suffering similar problems and experiencing similar opportunities, is fundamentally misguided' (Atkinson and Storey, 1994, p. 4).

3.1.2 The social components of the definition

From this perspective, we can see that international comparisons are especially risky, and all the more so in that the organisation and size of enterprises, as well as survey methods, are closely dependent not only on the nature of the economic fabric but also on institutional and social conditions within each country (tax and social security systems, availability of grant aid, etc.).

We have to get used to this idea: SMEs are a social institution, a product of unique national historical and social conditions. Is it by chance, for example, that Birch's work (1979, 1987; Birch, Haggerty, Parsons, 1997) emerged and was pursued in the USA and the UK, seeing SMEs as the main vehicle of the enterprise ideology and the basic unit of a market economy? Might it not be possible to interpret the vogue of research on SMEs in Quebec as an affirmation of French-speaking culture against the North American cult of gigantism? In Europe, is it not true that the view of SMEs as family enterprises actually had a solid anthropological basis for a very long time (hypotheses formulated by O. Torrès)? Furthermore, in a European area in search of unity, might it not also be possible to distinguish an SME culture '*à l'italienne*', deeply rooted in particular geographical areas, and a German conception of SMEs as guarantors of the continuing strength of the social fabric?

For all these reasons, with the exception of Italy and Germany, it would be difficult to establish a general theory for SMEs that would match the one developed, for example, by Alfred D. Chandler, for large enterprises. At the very most, we have to content ourselves with partial formalisations and constructions of 'average scope', whose richness and diversity correspond to the many facets of the subject under study.

3.2 The various methods of approach

Without aiming to be exhaustive, we can now distinguish several methods of approaching the subject of SMEs, which have gradually been developed alongside major econometric studies that are too exclusively based on 'size effects'. We shall focus on seven of these approaches that we feel have helped to enhance our knowledge of SMEs over recent years: *macrostatistical approaches, longitudinal approaches, approaches by branch, territorial approaches, manager typologies, ethnographic studies* and, finally, *international comparisons*. We shall leave aside the latter, because it potentially cuts across the six others and will be discussed on many occasions during this report. In its place, we shall offer a short commentary on recent ethnographic approaches.

It should be noted that these approaches are not mutually exclusive and can be combined in many ways, thus offering an abundance of new paths for future research. For example, macrostatistical approaches might be combined with typologies concerning 'local forms of organisation of the production apparatus', as in the recent works of Hecquet and Lainé in France (1998); similarly, there is often a continuum between territorial studies and longitudinal approaches, as illustrated by the syntheses produced by Atkinson and Storey (1994) or Karlsson et al. (1993), or the Italian case studies and 'revisitations' of a number of French researchers (Ganne, 1999; De Banville and Vennin, 1999); and comparative works can draw on quantitative data or be based on intensive, qualitative research, and so on.

The value of these various methods of approach is that they attempt to reduce the heterogeneity of the subject 'SME', particularly by using statistical or qualitative typologies,

566

and particularly to avoid a regressive, inadequate conception of SMEs, by emphasising their unique features and making the effort to demonstrate that small enterprises are not 'large enterprises in miniature'. In some cases, however, although it gives us a better understanding of SMEs' role in the current transformation of socio-production systems, the approach strictly focusing on enterprise movements does not always give rise to an analysis of the effects on the number and structure of jobs, and still less on SMEs' training practices. This, at least, is what emerges from a careful examination of the international literature on the subject (Courault, Trouvé, 1999).

3.2.1 Macrostatistical studies: rethinking SME/LE relations in new approaches to production

Macrostatistical studies have virtually always been conducted for administrative and descriptive purposes. This applies to databases built by institutions devoted to SMEs or SMIs, be they Government-commissioned (for example, the major works of SESSI in France), transnational (the publications of the European Commission, Eurostat or the OECD), or instigated by occupational organisations (for example, the works of IMPI in Spain, 1995). Their purpose is usually to identify SMEs' place and development in production systems, particularly by comparing their structures by size of workforce. This is why they tend to give preference to analyses by major aggregates based on the effects of size and sector rather than using other variables that are more difficult to process. Moreover, since 'panellised' data are only rarely available, most of them tend to use 'successive pictures', which give an inadequate account of the processes and dynamics of change over time. This description is, of course, highly simplified, but it does give a good idea of the methodological challenges being faced by macrostatistical research.

However, some good results are being achieved: for example, some current research is looking at the new relationships between SEs and LEs and the new production approaches being taken by SMEs.

Research on new relationships between SEs and LEs: power relations or productive interaction?

A memorable and somewhat artificial debate has traditionally run between the respective 'champions' of large enterprises and of SMEs. For the former (Harrison, 1994-a,b), in terms of rationalising production, streamlining organisation and returning to 'core competencies', large enterprises have characteristics similar to those of SMEs (flexibility, reactivity, ability to tackle small markets), sometimes incorporating NICTs: in brief, they have become capable of 'reconciling their large size with small-scale production', according to the theories of Davis, Haltiwanger and Schuh (1996). For the latter, such as Kirchhoff in the USA (1994), Davidsson in Sweden (Davidsson et al., 1996) and Baldwin and Picot in Canada (1995), it is a question of understanding how the production system works on the basis of unique coordination between SMEs and LEs, with, in particular, LEs' productivity being supported by SMEs' flexibility, especially as a means of reducing the weight of bureaucratic structures[42].

This debate is doubtless being continued today between, on the one hand, the partisans of the theory of domination or the 'repercussion' on SEs of the forms of rationalisation being used by large enterprises, particularly through the study of subcontracting relationships, for example, from a multi-industry viewpoint (Ardenti and Vrain, 1998) or in the automotive industry (Mathieu and Gorgeu, 1995), and, on the other hand, those who argue for the complementary nature of the two forms of enterprises, emphasising the margins for manoeuvre that can be taken by SMEs (Kotthoff and Reindl, 1990; Reid, 1993; Marchesnay and Fourcade, 1997). As we shall see later, these two approaches can, in

[42] 'The notion that large enterprises are no longer creating jobs because of their subcontracting strategies does not mean they are not playing a role in employment growth. Indeed, their search for flexibility in adapting production to demand is leading them to forge alliances with other enterprises and with a peripheral workforce' (Gass, 1996, p. 65).

our opinion, be combined: although large organisations undoubtedly have an impact on the structure of the production apparatus and although we cannot ignore the rise in subcontracting[43], some SMEs are able to develop strategic positions that give them some protection against too strong a dependence on dominant large enterprises[44]. It is nonetheless true that current changes in the apparatus of production are, if not calling into question, at least considerably confusing the 'pure' model of the private small enterprise (Bentabet et al., 1999), a phenomenon that some authors are quick to interpret as a symptom of the *disappearance of SMEs* (Curvalle, 1994; Dubost, 1995).

In any event, analysis of macrostatistical data indicates that it is impossible to dissociate SMEs' demographic dynamic and contribution to employment from the development of large enterprises and inter-enterprise relations in general (Baudry, 1995), even though many, sometimes contradictory, interpretations can be made of this: 'what happens therefore to the large-firm sector must inevitably influence smaller firms and vice versa. Hence it is essential to examine key developments amongst larger firms in order to better understand the small-firm sector' (Karlsson et al., 1993, p. 7). An excellent illustration is provided in France by a line of thought that runs from Delattre (1982) to Boccara (1998) via Parent (1995a, b): Boccara, in particular, shows that it is mainly in SMEs that either belong to groups or operate within their sphere ('circulating SMEs', that is, SMEs that enter and leave group control) that there is the most evident growth in employment (these SMEs created 300 000 jobs during the period 1984-1992).

On this basis, it would be possible to identify several areas of separate or combined investigation, depending on the chosen reading of the situation: either focusing on the fragmentation, decentralisation, externalisation, deconcentration or hiving-off of large groups, not forgetting the other forms of co-contracting, franchising, co-design or multiple partnerships[45], or concentrating on the current endogenous development of a new SME architecture, with the development of micro-groups (SESSI, 1995) or *networks* organised on geographical or other bases, which statistical methods are still having much difficulty in covering (INSEE, 1997). This means that it is mainly the relations of financial dependence that have been studied. Yet, in many cases, it is still too soon to give a breakdown of SMEs or LEs by the most value-creative segments (strategic aspects), particularly in value chains that run from industry to distribution. Also, forms of cooperation (legal, commercial) or the sharing of quantitative and qualitative human resources by SMEs and LEs are still relative strangers to statistical

[43] The special position of subcontracting SMEs is of vital significance. Apart from by the authors cited here, the issue was also covered by, in particular, Bonneau, Gardes et al. in the late 1980s (1989). On the basis of a questionnaire-based survey of 355 enterprises, of which two thirds have fewer than 50 employees, 80% are single establishments and 75% are independent subcontractors, they show that, depending on the sector, 7% of them have experienced a rise in the number of unskilled workers (26% in the smelting industry and 14% in the plastics sector) and that the smaller they are the less increase they are seeing in the number of skilled workers (28% of enterprises with 20-49 employees and 69% of enterprises with 200 or more employees). It is sectors in which the proportion of skilled workers was already greatest (boiler-making, electronics and engineering) that have continued to see a rise in skill levels. On the other hand, 49% of enterprises have improved their skills structure by increasing the proportion of professional and managerial employees and engineers and/or technicians. According to this criterion, and many others, it is again size and sector that are the determining factors. For example, although the use of temporary labour increases with size, either in intensity or frequency, it is in the smelting industry and the plastics sector that enterprises make most use of fixed-term contracts (9% and 7%, respectively). For the moment, it is the plastics sector and boiler-making industry that are the highest consumers.

[44] We shall see later that it is precisely these SMEs that retain their autonomy or 'market power' that are the highest performers in terms of the quantity and quality of employment they provide.

[45] A stronger typology of these many SME/LE relations can be found in F. Saget, in Commission of the European Communities (1989, pp. 49-65). See also the ENSR publication (1996, pp. 157-178).

583

observation. Apart from the methodological issues concerning the comparability of variables used in international comparisons, these are the two essential limitations of macrostatistical approaches, which are partly solved in research with a more qualitative or monographic bent, as well as in approaches focusing on a single industry (see later).

Research on new production approaches in SMEs (and especially SMIs)

Attempting to construct some typologies on the basis of a very considerable number of organisation variables for some extensive samples of French and German SMIs (small and medium sized industries), Moati, Pouquet et al. (1997) distinguish four major categories (and eight subcategories) of SMIs, depending on their production approaches (degree of openness to the environment, internal nature and organisation of the technical system and development, degree of specialisation, degree of consideration of human resources and the organisation of work, etc). The final breakdown is: 39.6% 'traditional SMIs', 31% 'cognitive SMIs', 16.5% 'Taylorist SMIs' and 12.9% 'lean commercial' SMIs. Whereas 'traditional SMIs' are a highly diversified group, which tend to operate in sectors that are not highly competitive and perceive their environment as safe and stable, 'cognitive SMIs' are usually to be found in medium to high-technology sectors, requiring increasingly high skill levels among workers and constant adjustments. 'Taylorist SMIs' tend to be in competitive, 'everyday' sectors, and 'lean commercials' are in sectors experiencing growing competitive pressure, leading to reduced performance and a need to reorganise to adapt to changes on the market. This is not the place to describe the content of each of these types, which would require considerable discussion. We shall simply mention two major aspects:

1. on the one hand, Moati, Pouquet et al. show that 'the sector to which an enterprise belongs does not necessarily indicate the type of production approach it will adopt' (p. 178). In other words, although some characteristics of the sectoral environment will be more or less favourable to their dissemination, 'different production approaches can coexist among SMIs in the same sector. The adoption of a particular production approach thus seems to be as much the product of a strategic choice as a standard response to a certain sectoral environment' (p. 119). Among traditional SMIs, for example, there may be both passive, closed enterprises and SMIs exploiting a 'technological niche';

2. on the other hand, looking at public aid for SMIs, the authors demonstrate that this aid is used very differently, depending on the production approach involved. Briefly, although 'Taylorist' SMIs, for example, are over-represented among SMIs receiving aid concerning production factors (capital investment, aid for recruitment and termination of contracts, etc), 'cognitive' SMIs are more highly subsidised by aid for innovation. Also, among the 'cognitives', we need to distinguish those that are 'close to science' (high-tech SMIs) and 'global technologists', which are relatively disconnected from production activity, work in networks that make more 'eclectic' use of aid. The former are certainly given greater preference in France than they are in Germany, where public aid – although used less – seems to be distributed more evenly. Combining recommendations with strict observation, the authors draw an inspiring conclusion from their empirical research: we need to encourage 'the maintenance of an aid system that is rich and diverse enough to provide appropriate support for each enterprise category, in accordance with the requirements of the relevant production approach' (p. 192). Nevertheless, they comment that 'in France and Germany, it is precisely the enterprises that are being most marginalized by major developments in the organisation of production – those that, overall, have the poorest economic results – that are benefiting least from public enterprise aid and criticising it most' (p. 166).

3.2.2 Longitudinal research: understanding processes

We have seen that the main problem facing macroeconomic research lay usually in the im-

possibility of giving an account of developments within a given enterprise population in two successive surveys. Now, we know that enterprise movements are not simply a question of quantity but also of quality. For example, the disappearance of an enterprise might be attributable to a cessation of trading or a change in legal status. Similarly, a new enterprise might be a genuine creation 'from scratch' or the result of a transfer of activities from one enterprise to another. If the instrument of observation is too distanced from the field or if the categories of analysis are too loose, there is a major risk of losing a vital part of the information. This type of difficulty is usually dealt with by replacing the examination of processes with a sequence of 'stills'. Longitudinal approaches serve precisely to avoid this problem.

A good example is provided by an important study conducted by North, Smallbone and Leigh (1994), which had the twin merits of looking at the contribution made to employment by mature rather than newly-formed SMEs and, at the same time, examining changes in work processes and their impact on jobs during the 1980s. The authors study a panel of 293 enterprises in existence in 1979, which was later expanded to a retrospective sample for the period 1979-1990. The SMEs chosen are all independent, employ fewer than 100 workers, and operate in eight sectors of manufacturing industry, ranging from labour-intensive sectors (clothing, furniture) to higher or medium-technology sectors (electronics, scientific instruments). Moreover, they cover three distinct geographical zones (urban, semi-urban and rural).

What is the value of this research on the methodological level and, particularly, what are its most important contributions? Firstly, it may be noted that the authors do not simply study SMEs' situation at the beginning and end of the reference period, but are able to describe how these enterprises have developed throughout the 1980s and, therefore, to comment upon the processes that have led some of them to survive and change (the 'survivors') and others to disappear (the 'non-survivors'). There are 124 non-survivors, causing the loss of 2 631 jobs, or 37% of the jobs provided at the beginning of the period. The survivors are responsible for employment growth of 18% in the panel, but this general trend conceals a difference between survivors whose workforce has increased (52%) and those who have seen a drop in the number of people they employ (36%).

This research is a 'concentrate' of many observations that are repeated again and again in English and European literature. Medium-term trends in the demographics of enterprises and jobs conceal a multitude of changes affecting SMEs which are very difficult to identify in the short term or in terms of dynamics. The 'non-survivors' are usually smaller than the 'survivors' and belong to specific sectors. Among the 'survivors', on the other hand, it is the largest enterprises (with more than 50 employees) that have lost the most jobs. Another discovery: it is SMEs in rural areas that perform best in terms of employment, with 50% job increases in most sectors, as against 6.7% in London and 23% in semi-urban areas. Finally, there is a statistically significant correlation between the economic development of the SMEs studied and the number of jobs they create, since 83% of jobs created are in enterprises that doubled their turnover during the 1980s. The authors use this to draw a useful conclusion: 'From a policy point of view, it suggests that focusing on job creation *per se* may be less successful in generating employment in the longer term than focusing on those firms which have the greatest growth potential' (1994, p. 222).

The authors thus confirm Storey's theory (1988), which is repeatedly cited in the literature: a substantial proportion of job creation in SMEs tends to be concentrated in a relatively small number of firms.

With regard to changes in the labour process[46], North, Smallbone and Leigh focus par-

[46] By 'labour process', the authors mean not only the status of employed workers (full-time/part-time, gender distribution, degree of contrast between core and peripheral workers), but also the proportion of skilled workers, the skills level required by production and the degrees of demarcation between the various skills levels.

570

ticularly on the likely increase in (numerical or functional) flexibility in SMEs. They follow Shutt and Whittington (1987) in demonstrating small firms' dependence on large firms' fragmentation strategies, but they do not find any significant increase in the number of part-time or 'peripheral' workers, which is an employment practice used by a minority of SMEs. Indeed, SMEs seem to prefer to use overtime as a way of adjusting the quantity of labour. As regards functional flexibility, although the authors note a slight increase in the number of skilled workers, they are struck by the great stability of the kinds of skills required by enterprise managers over the reference period. It is, of course, in the minority of SMEs working in technologically sensitive sectors that the most significant changes are taking place, but the trend is towards 'upskilling' or 'reskilling' rather than towards the 'deskilling' that is nonetheless evident in some firms manufacturing electronic products.

The conclusion the authors draw from this longitudinal study of SMEs over the period 1979-1990 and a study of SMEs' practices as regards employment and use of labour is that, during the 1980s, most adjustments in SMEs were marginal and few firms have introduced radical changes in their labour process. In most cases, there was no 'radical break' in the way SMEs manage the labour factor. It was very difficult to find SMEs with a clear strategy of human resources management: only 16% of the London panel could be considered as having an 'explicit labour strategy' and the structural adjustments they made concerned factors other than forms of labour: 'adjustments to other aspects of the firm, such as products, markets, and the organisational structure, were more common than labour process adjustments' (p. 253).

3.2.3 From sector to system: coordinating industrial economics and strategic management

It has been repeatedly argued that the sectoral variable is, together with size, undoubtedly the one that best explains the quantitative management of labour in SMEs. At the same time, we have seen that a breakdown into major sectoral aggregates is inadequate if we want to perceive the full complexity and diversity of behaviour patterns among SMEs in the same sector. For purely descriptive purposes, the notion of 'system' adds an *interpretative* and *dynamic* dimension to research on inter-enterprise relations. It also makes it possible to look at industrial economics and strategic management in combination, revealing that SMEs' economic performance and labour management are largely dependent on the position they occupy in 'chains of value' (Porter, 1990; Chevalier, 1997). The specific purpose is to understand how the characteristics of final demand structure and restructure new inter-relations between design, production and distribution and how they influence both the internal organisation of enterprises (technologies, ways of using capital and labour, etc.) and relations between enterprises (redefinition of enterprise boundaries, networks, partnerships, domination, etc.).

For example, are SMEs in a position to appropriate the most value-generating segments in a given system or, on the contrary, are they ghettoised in activities that keep them distanced from these segments, to the benefit of large groups? This is the major question that needs to be asked, though the notions of 'market power' or 'added value' in the micro and macroeconomic sense are not of very much help here. Some SMEs are indeed able to succeed without occupying a particularly large market, as in the case of 'niche' enterprises in particular; on the other hand, in an economy of diversity, it is precisely the 'priceless' value of a product or service, as judged by the end-client, that counts more than quantity or price. This is why a good knowledge of this end-client, acquired via direct contact, is always a distinct advantage of high-performance SMEs.

Of course, economists do not always look at enterprise strategies in this way, which is why they find it difficult to explain efficiency differences between SMEs in the same sector (Trouvé, 1999). It is nevertheless suggested by many recent works on the restructuring of some systems, such as agri-foodstuffs (Lamanthe, 1998), transport or logistics, tex-

tiles and clothing or even the automotive industry. In the textiles and clothing sector, though with some differences depending on the country concerned, SMEs are losing their once dominant role in production and moving into distribution. This is leading to a redistribution of jobs, whose impact is being felt both in former production areas and in SMEs, which are being forced to take up new positions either upstream (for example, in design or innovation) or downstream (for example, making use of new distribution circuits) or in new 'interface' service functions (Courault and Parat, 1998).

In the automotive sector (Gorgeu and Mathieu, 1995, 1998, 1999), we are seeing the hierarchisation of subcontracting levels, orchestrated by manufacturers or final assemblers, who are using just-in-time organisation methods and therefore forcing a reduction in the number and concentration of first-level suppliers, as well as their relocation (neighbourhood factories). So, what is the role of SMEs in the reorganisation of this system? The authors cited above show, in particular, that SMEs in the sector have some specific features in terms of their method of labour management, depending on their level in hierarchical subcontracting relations. For example, although manufacturers are losing jobs, equipment suppliers are gaining them; but this is less a quantitative labour transfer than a new distribution of skills and skills-management methods from one end of the system to the other. In this respect, it is possible to make two reasonable hypotheses: firstly, in systems including SMEs as players, it can be argued that their position is more decisive than their size and even that the former determines the latter; secondly, there is a link between the hierarchisation into subcontracting chains organised by the dominant enterprises in certain systems and the segmentation of the labour market, as B. Baudry confirms in a recent piece of research (1994). In the case of the automotive industry, one of the economic interpretations of the vertical disintegration of large groups is 'the potential and frequent cost differential between in-house production (in a large enterprise) and external supply (by SMEs), because of labour costs' (De Banville and Chanaron, 1991, p. 56).

3.2.4 Territorial approaches: in the shadow of the recurrent model of industrial districts 'à l'italienne'

It is a known fact that, more than anything else, SMEs' development depends on conditions associated with their local environment. This is why much of the research on them, particularly that inspired by Marshall (Marshall, 1906 and 1919; Marshall and Marshall, 1891)[47], has very quickly placed the emphasis on their inclusion in a specific economic, social and historical context. We have seen that, in some countries, such as Italy, research on SMEs has always taken this approach, whereas, in other countries (Germany, the UK, France), the crisis in mass production has led to its re-emergence (Piore and Sabel 1984). Finally, it might be claimed that this approach remains a source of inspiration for analyses of the development of networked firms (Veltz, 1997; Rullani, 1998; Gastaldi, 1999).

Localised SMEs or the district model

An abundance of literature that cannot possibly be looked at in detail here serves as a basis for identifying some major focuses in the majority of works that have combined analysis of SME fabrics and their territorial organisation. Firstly, there are various paths for the formation and development of enterprises

[47] The issue of industrial districts is a long-standing subject of economic analysis identified and theorised by A. Marshall. 'Districts' are localised industrial systems of SMEs whose roots lie in the historical forms of the small semi-industrial, semi-artisanal workshops of early industry, described and analysed by Marshall in the form that existed locally and historically in and around Manchester in the early twentieth century (Industry and Trade, 1919). The market is not governed solely by the principle of competition, whereby only the best profit at the best price to the satisfaction of all; cooperation and solidarity are also principles that in exceptional cases replace the basic economic rules. Marshall has inspired research on large enterprises and SMEs, with each form being synonymous with a distinct organisation 'theorised' according to different principles: broad specialisation and integration for large enterprises and geographical concentration and narrow specialisation for SMEs grouped in districts (Courault, 1999).

that cannot be reduced either to the purely individual emergence of small firms or to the model of growth illustrated by a small enterprise that turns into a large one; one of these paths is represented by the recurring model of the 'districts *à l'italienne*' that we described earlier. According to the founding fathers, this model is conceived as a localised system of inter-enterprise organisation, usually comprising a myriad of craft and industrial SMEs concentrated in small or medium-sized urban areas around one or more specialised industrial production.

At economic level, this geographical proximity of a multitude of SMEs, sharing the entire production process on the basis of a very strict division of labour[48], generates 'area economies' that have advantages over economies of scale (Becattini, 1987). However, these 'localised systems of production and innovation' cannot be conceived without the substructure of the 'local community', which is the basis of their economic success. Because of the geographical proximity and, above all, the social intimacy of entrepreneurs, relations of cooperation and trust are built up alongside competition and market relations. These two dimensions are indissociable and essential to the formation of 'SME districts'. Becattini reiterates this: it is impossible to separate analysis of the production system from the social conditions underlying that system (in Pyke et al., 1990). According to Bagnasco (1988), like the market itself, the district is a 'social construct' that brings together a decentralised production system, unique ways of using labour and strong local cooperation mechanisms, as well as a self-regulating political system at local level (see the works of Trigilia), with socio-occupational groups being partners in local institutions guaranteeing the permanence and reproduction of the system.

It is because they have been unaware of the coexistence of all these elements in a single unit that a number of economic decision-makers have regularly toyed with the idea of importing the 'district' model into other national contexts (see the considerations of DATAR in France). This is also why a number of researchers have endlessly returned to the model, or to similar configurations, to refine its interpretation and compare it with current or earlier observations. For example, in France alone, we might mention the collective research coordinated by B. Ganne (1992). From an accumulation of research over the years, it finally emerges that the examples found elsewhere, in other national contexts, have remained exceptions that have never given rise to an Italian-style generalisation of the model. Simplifying somewhat, one might almost say that three schools of thought can be identified here: the most naive or most technocratic is the idea of trying to establish districts everywhere (DATAR); the one that one sees everywhere, from Italy to China, Taiwan to Peru, Brazil to India: works illustrating this school are cited in the survey of the literature by Benko et al. (1998); and finally, there is the school that sees the district as a socio-production model that is unique and highly specific to Italy: this is the line taken by Courault and Ganne, with the latter putting forward the very realistic notion that there is no need for peripheral areas to be integrated in 'localised production units' to guarantee the industrial success of some SMEs. He provides evidence of this in a forthcoming publication (1999) that combines the local and longitudinal approach to show that SMEs can develop alongside new types of geographical groupings (based, for example, on occupation-based approaches) that are very different from the 'localist' model of the Italian districts.

The notion of network: renewed analysis of relations between SMEs and large enterprises?

We shall now move from SME districts to 'systemised' or 'networked' SMEs. The former term focuses expressly on SMEs. Network or systems-based approaches look more particularly at relations between SMEs and large enterprises: some focus on the 'SME-isation' of groups in new production organisations at world level (Raveyre, 1988, 1999); others concentrate attention on the restructurings that are taking place as a result of SMEs' individual routes to internationalisation (Ganne,

[48] "The district is a concrete example of the localised division of labour' (Becattini, 1992, p. 39).

1999); while still others put the emphasis on new forms of territorial structuring, based on new relationships between SMEs, between SMEs and markets, SMEs and groups, internal and external local relations (Rullani and Romano, 1998).

In any event, although there is no universal model of the SME, the network seems to prefigure some infinitely flexible and open extensive forms which, although they represent the continuation of district-based SME systems, might in the future become a favoured way of restructuring groups, bringing SMEs and large enterprises together. As regards methodology, however, it might be noted that these 'new forms of organisation' and interfirm relationships, particularly in the post-Fordist context, once again prove the need for improved integration of local and global analyses, qualitative research and macrostatistical studies. On this latter point, despite some recent inroads (see, in particular, the works of Hecquet and Lainé – 1998 – on industry in France), a statistical typology of networks has yet to be devised and is proving to be a highly complex task (INSEE, 1997).

3.2.5 The virtues of socioeconomic typologies: enterprise profiles, manager profiles

We have already seen the value of typologies, and typologies based on a multi-criteria, socioeconomic definition of SMEs are certainly the richest. Julien and GREPME (1997, pp. 1-16) attempt to draw up a relatively exhaustive bibliography before proposing a 'complex global typology' integrating several 'continuums': 'the material dimension (number of employees, assets, turnover), sector or branch of activity, type of market, centralisation or control and structure or organisation, level of independence, type of strategy followed, type of technology used and use or non-use of innovation' (idem, p. 10), and proposing a multidimensional definition of the concept of SME: small size, centralisation of management, little (internal) functional specialisation, an intuitive or relatively unformalised strategy, an internal information system that is relatively uncomplicated or not highly organised, and a simple external information system. Maqueda Lafuente in Spain has made similar proposals, including more qualitative criteria (1992, p. 16).

This is not the place to discuss these definitions, which we feel are flawed by many presuppositions, particularly the one concerning 'simplicity', which was a feature attributed to SMEs a long time ago by Mintzberg (1982). However, despite the good workability of quantitative variables, it has to be said that qualitative typologies have considerably enhanced knowledge of SMEs in recent years.

The multi-rationality of SME managers, according to M. Bauer

A very special place must be given here to typologies that combine analysis of *managers' sociological profiles* and analysis of *enterprise profiles*, for, as M. Bauer, expert on the subject, says – there can be no sociology of enterprise without a sociology of its managers, particularly when we are talking about SMEs (1990). In his examination of small business, Bauer (1993) proposes a model that he constructs in the form of a law on the multi-rationality of managers: 'an SME owner/manager works not only on the basis of an economic rationale, but also on the basis of a political rationale and a family rationale' (p. 12). Thus we have a 'tripod' based on *homo economicus* (selling), *homo politicus* (conserving) and *pater familias* (sharing). Whilst the rationality of *homo economicus* is socially valued, that of the two others is concealed by the skilful approach of managers and their firms – hidden, but no less effective for that, one might say.

However, there are also various different economic rationalities – that is, no fewer than five different figures, ordered in accordance with two dimensions: entrepreneurial and patrimonial, sometimes the two together. The same applies to *homo politicus*, whose various figures reflect the different ways of preparing succession, depending on whether there are potential successors in the enterprise, whether they belong to the family or not, whether there is just one successor or several. As for *pater familias*, his behaviour can be understood only with reference to his dynastic concerns. What is the degree of family/enterprise differentia-

tion (number of children working in the enterprise, number of children kept by the enterprise)? Bauer finishes by listing no fewer than 480 different SME management styles and, therefore, 480 different 'SMEs': according to him, this is the price we have to pay for moving away from the 'theoretical firm' invented by microeconomics and towards real enterprises. However, wary of too deterministic an interpretation of his theory, Bauer warns us that 'the role played by owner/managers in building 'their' enterprise explains why the typology of owner/managers is so similar to the typology of enterprises. Similar does not mean the same, however, and it would be ridiculous to confound analytically an enterprise and its owner/manager' (p. 225).

Kotthoff's sociology of small business

This same approach is taken by the works of Kotthoff (1993) in Germany: according to him, the paradigms and constructs that serve as reference frameworks or are used for organisational or management theories have nothing to do with the reality of SMEs. The difference between an SME and an LE begins with the basic notion of *organisation*. And, before all else, 'are small and medium-sized enterprises actually organisations?' (1993, p. 234). Nothing is less certain if organisation means: 'a permanent institution, which acquires relative independence by establishing a boundary between itself and its environment, which also renders itself largely independent, via membership roles, of the persons active within it, of their moods, personal fate and fluctuations, and which is public in nature and carries political weight owing to its size'. SMEs are, on the contrary, based on 'personality, with virtually no independence of their environment and no public character, and their permanence is more than a little precarious' (p. 234).

The personal and private nature of the family economy means its destiny is intimately bound up with that of the owner and his family because 'the entrepreneur is the focal point of the enterprise' (Gantzel, 1962). The entrepreneur is, then, the key to understanding the economics, organisation and management of SMEs. Certainly, not all SMEs are family businesses, but they can be 'familialist' without being patrimonial, as we have already shown (Bentabet et al., 1999). Of course, some new manager profiles are emerging (Ardenti and Vrain, 1995b, 1998), but, whatever their previous path and whatever their social and cultural capital, small entrepreneurs' limited ability to influence the market forces them into a pattern that is very different from the strategic planning that one is more likely to find in Les. 'Our investigation concludes that the "social breeding ground" for entrepreneurial success is the biographical constellation of the entrepreneur himself, whom I call the entrepreneurial social character' (p. 236). According to the reference publications, we find six or seven models of enterprises: 'the small family business, the "boss's" business; the dynamic/charismatic empire, the degenerate family enterprise; the manager-run enterprise deeply rooted in small-scale business, and the technocratic manager-run enterprise'.

We should be taking a risk if we were to enter into the richness of this nomenclature, which concerns not only managers' culture but also the culture shared by professional and managerial staff and employees. This subject is, in any case, covered in some depth elsewhere (Kotthoff and Reindl, 1990). We shall simply note three things: firstly, the typology is based on forms of social regulation ('*Sozialordnungen*'), including the background and role of the owner, the strength and nature of the hierarchy, working conditions, skills levels, methods of pay, nature of relations among workers, the strength of collective forms of representation (enterprise culture), and the surrounding social environment. Secondly, there are two possible forms of social order: the family-type 'pragmatic production community' and SMEs that are already subject to a bureaucratic, authoritarian order ('*seelenlose Arbeitshäuser*' or 'factories without soul'). The former is based on close, interdependent relationships between owner and employees ('*gemeinschaftliche Sozialordnung*'); the second is known as 'instrumental' ('*instrumentalistische Sozialordnung*').

A general feature of the world of SMEs is the predominance of the community-based social order, which applies in three-quarters of the cases studied. Thirdly, one might think there

Table 3.2: Typologies of entrepreneurs, according to various authors

Authors	Boswell (1971)	Laufer (1975)	Lecointre (1977)	Marchesnay (1988)	Marmuse (1992)
Typologies proposed	conservative rational expansionist craftsman entrepreneur manager	manager and Innovator owner technician craftsman	autonomous family production organisations 'survival enterprises' growth enterprises	PIG' entrepreneur (permanence-independence-growth) 'GAP' entrepreneur (growth-autonomy-permanence)	craftsman entrepreneur manager

Source: Ivanaj and Géhin, 1997, p. 86.

would be a relationship, even some coherence, between enterprise policy, labour system and method of social regulation (*'soziale Ordnung'*), as argued by some French authors (Bentabet et al., 1999). According to Kotthoff and Reindl (1990), this is not the case: for example, SMEs in the machine tools sector, which are product-focused and have a very highly skilled labour system, might be based on the same 'social order' as small enterprises in the textiles and clothing industry, which, on the contrary, have their eye on economies of scale and operate in a highly Taylorist labour system. This literary debate merits further research.

Other authors, such as Ivanaj and Géhin (1997) in France, explore 'the relations between the manager's values, perceived as a value system, and strategic behaviour'. This covers, for example, aspects as diverse as sociocultural choices (religion, politics, the family, the individual, work, etc.) and entrepreneurial values (acceptance of risk, conception of growth, profit, security, etc.). Ivanaj and Géhin offer a relatively full survey of recent research in this field in the French-speaking countries and, for example, provide a table of the most commonly used typologies (see Table 3.2).

It is of this tradition that our own works are a part, seeking to identify the links between market strategies, labour management practices and training in very small enterprises (Bentabet et al., 1999, pp. 99-117). On the basis of qualitative research covering eight sectors of activity, we have identified six variables explaining VSEs' practices (sector/industry, legal status and place in the chain of value, territorial roots, degree of structuring of occupations exercised, strategic orientations and managers' career path and profile). This gives rise to a model constructed on the basis of the continuum and breaks between three stylised VSE types (traditional independent VSEs; managerial VSEs, that is, ones that are 'integrated' in large groups or 'modernised'; and entrepreneurial VSEs.

3.2.6 Ethnographic studies

Finally, we need to mention a number of works deriving explicitly from the ethnographic method, which tend either to be based on 'participatory observation', as in the case of Holliday (1995) or Ram (1994), or to be part of the current of action-research or 'interactive research' applied to management, as propounded by Plane (1998). In the former case, researchers study 'the real life of the organisation of production' and try to understand the players' behaviour patterns from their point of view. In the latter, researchers formulate scientific or operational knowledge on the basis of four principles: '- the knowledge formulated is based on fieldwork; – fieldwork is adapted to facts and situations that might influence it; – the players have an important role in the research process; – the researchers are responsible for interpreting the information and theoretical constructs deriving from the research'. Researchers should, in particular, focus on the relationships between

576

Table 3.3: The fate of newly-created or re-launched enterprises in France (by sector)

Survival rate after five years	1987-1992
Agri-foodstuffs industry	62 %
Hotel and catering trade	44 %
Household services	66 %
Industry	53 %
Enterprise services	54 %
Transport and tele-communications	53 %
Commerce	44 %
Construction and civil engineering	49 %

Source: D. Francoz and J. Bonneau (1994).

'the formal and the informal', 'the visible and the concealed', 'words and actions', 'what is implicit and what is explicit'. Furthermore, all of this research is based on intensive, qualitative methodologies that are highly appropriate to the formulation of theories, which can then be complemented by empirical methods of verification of a statistical nature.

3.3 From 'Schumpeterist' ('Schumpeterian') entrepreneur to socialised creator

As we shall see later, it is important not to confuse entrepreneurship with employment creation. The fact that a lot of new enterprises are being created does not necessarily mean that a lot of jobs are being created, too (Schmidt N., 1989). Nor should we confuse *entrepreneur profile* and *manager profile*: for, although an entrepreneur is capable of creating an enterprise by introducing 'new combinations of means of production' (Schumpeter, 1935), a manager will ensure its survival. Although entrepreneurship 'is not a profession' (idem, p. 325), a manager's realism is not always reflected in strong creativity or the expansion of activities. Yet these two figures represent two complementary aspects that are a major focus of attention for today's decision-makers (OECD, 1998a) and the subject of a particularly abundant literature, especially in the English-speaking countries: *creation* (what are the factors of success and failure on start-up?) and *growth*, *permanence* or *performance* (is it possible to identify in advance people who are capable of creating enterprises with strong potential for development?[49] How can we support them?)

3.3.1 Flourishing research that demystifies the image of the 'inspired' entrepreneur

On this point, following a euphoric phase during the 1980s, most research today offers a vision that is more 'lucid', 'more complex' and more measured with regard to enterprise creation and, first and foremost, its repercussions in terms of jobs (Saporta, 1994). We know, in particular, that no more than 50% of newly-created enterprises in Europe survive for more than five years. Of course, this survival rate varies from one sector to another, as is so clearly demonstrated by Francoz and Bonneau (1994, see Table 3.3), but it is usually lower for sole traders than it is for small enterprises involving more than one person. For example, Callies (1989a and b) shows that more than 60% of new enterprises still have no employees after four years. Also, 'most research shows that a rapid increase in employment by enterprise-creators is still a relatively rare occurrence, particularly if the creator began as a sole trader' (Saporta, 1994, p. 75). In France, a now rather old study that has served as a reference work (Brun and Mouriaux, 1993), which looked at 1 082 enterprises created in 1989, showed that only one of these enterprises had exceeded the threshold of 50 employees three years after start-up, and that only 12% employed more than five people. This latter percentage fell to 1% when the initial workforce comprised only the enterprise-creator.

In Germany, too, the 1980s saw a net increase in the number of small enterprises and jobs they had created (Paulini, 1997). However, Brüderl (1998) notes that there is plenty of room to feel pessimistic about the fact that a

[49] It should be noted that this category of entrepreneurship, known as 'continued entrepreneurship' because enterprise creation is followed by economic growth, jobs and investment, provides the continuum between *entrepreneur* and *manager*, as described earlier.

third of newly-created enterprises disappear during the first five years and that, of the survivors, only a quarter show a significant increase in jobs, meaning that only very few new enterprises actually manage to grow. There are nevertheless some positive aspects on the macroeconomic level since, according to Brüderl, the 4% of new enterprises that have a strong expansion dynamic are bearers of structural economic change. Even Marbach (1942) had noted that the value of SMEs lies not in their individual existence but in the aggregates they form. We therefore need to distinguish between the individual fragility of small enterprises and their strength as a group (*'Stärke des Aggregats'*, Leicht and Strohmeyer, 1995, p. 7). This is a notion dear to Schumpeter: SMEs are a perfect illustration of the phenomenon of creative destruction and demographic turbulence (1934).

Nor should we have any misconceptions about recently-created innovative SEs: in Germany, their rate of creation is paradoxically slower than it was in the 1980s, with their proportion of new enterprises in manufacturing industry falling from 8% to 6.7% between 1990 and 1995 (Nerlinger, 1998). In the UK, Oakey (1991) obtained similar results in a piece of longitudinal research on the biotechnologies sector. These small 'high-tech' firms need regional university infrastructures and have little impact on enterprise and employment-creation dynamics at regional and national level. Of course, there are many aid programmes aimed at them, but these programmes tend to be fairly ineffectual because of lack of transparency. In France, Arnould and Abonnat (1999) identified no fewer than 37 different types of aid (at regional, national and European level) available in 1999 to small firms based on new information and communication technologies [NICTs]. Young innovative enterprises (particularly those using NICTs) need to be covered by some more in-depth research so that we can understand their medium and long-term development and their contribution both to the development of new industries and to employment. Work could also be done on international comparisons of their financing (Nerlinger, 1998). Generally speaking, however, virtually all the current research agrees that it is important not to overestimate the role that technology might play in generating employment.

3.3.2 Enterprise creation and the labour market

In order to understand the mechanisms of enterprise creation, many researchers have tried to identify the relationship between enterprise creation and the functioning of the labour market. On this point, everyone is aware of the unresolved controversy about 'push and pull factors' in the works of the prolific American researcher D. Audretsch (1993). On one side, the increase in enterprise creation is explained by a 'push' factor – an upsurge in the number of unemployed workers, who are, in some cases, being encouraged by public policy to create their own enterprises. On the other side, it is argued that enterprise creation is being 'pulled' by demand for additional goods and services or, in other words, by economic growth. In the USA, neither Audretsch himself, focusing on industry, nor other researchers taking a regional perspective (for example, Reynolds et al., 1993) have found any link between the rate of enterprise creation and the high level of unemployment. In fact, they have found quite the opposite, that is, that the number of new enterprises created is lowest in regions with high unemployment levels.

One might wonder whether these results can be generalised to cover Europe – either all or part of it. Indeed, a considerable amount of research has been done over the past few years in France and Germany on the phenomenon of enterprise creation by jobseekers. A distinction has even been drawn between 'entrepreneurial creations', which are the result of a project, calculation or rational forethought, and 'social-integration creations' by players whose objectives are more defensive and comprise exercising on their own account knowledge and know-how acquired during previous employment (Saporta, 1994). Several quite substantial works have shown the significance and effectiveness of public enterprise-creation aid for the unemployed (Aucouturier, 1997; Aucouturier et al., 1996).

However, the national and macrostatistical data in this field are both limited and uncon-

vincing. With one exception: Johannisson (1993) in Sweden imitates Reynolds in looking at the determinants of enterprise 'volatility', region by region. Having identified four conditions that affect enterprise creation (market for goods or services, availability of resources, start-up environment and the occupational backgrounds of those creating enterprises), he stresses the importance of the last two, which concern the spatial and sociological sources of creativity (presence of craft workers, local networks, availability and dissemination of role models, etc.), which are similar to the 'industrial atmosphere', 'the air that one breathes', as described by Marshall. Again in Sweden, Davidsson et al. (1993) examine 80 labour markets and focus on the qualitative factors that influence SME dynamics, such as enterprise networks, etc.

Now at last, apart from the difficulty of making international comparisons on this tricky issue, we realise that rates of enterprise creation (usually calculated in relation to 10 000 people aged 16-64) not only vary from country to country (OECD, 1998, p. 53), but that the most marked differences are within individual countries (Reynolds and Storey, 1993), with the rate varying, for example, from 1 to 4 in France or the USA, 1 to 3 in Italy and 1 to 2 in Germany.

We shall not be returning to the question of the value of studying the beneficial effects of the geographical concentration of enterprises and economic activities (Isard, 1956, cited by Bonnet). Instead, we shall concentrate on two other starting points mentioned repeatedly in the European literature: sectoral criteria and the characteristics of entrepreneurs. The former relate to an almost deterministic conception of enterprise creation; the latter are of a more sociological nature (and perhaps equally strong determinants), for they cannot be reduced to the simple psychological profiles or other 'cognitive maps' of enterprise-creators, which are often wrongly considered to be the ultimate explanatory factor.

3.3.3 Sectoral variables

On this first point, we can draw on the European Commission's fifth report on *Enterprises in Europe* (1998, pp. 65-80). Apart from mentioning the influence of economic cycles (which seem once again to contradict the theory concerning unemployment's 'push effect' on enterprise creation) and the fact that there are some economic sectors in which SMEs predominate (vehicle recovery, sales and repairs; personal services; hotel and catering trade, etc.) and others dominated by large enterprises (post and telecommunications, mining and energy, automotive industry, etc.), the aforementioned document distinguishes two major European areas in the mid-1990s: the South (Portugal, Spain, Italy and Greece), plus France, is characterised by a lower growth rate of enterprise creation in service activities (about one third of new enterprises) and by a very high rate of creation in commerce and the hotel and catering trade (ranging from 41.2% in Spain to 45% in Portugal); and the North (Denmark, the Netherlands, Finland, Sweden and the UK), where, on the contrary, the majority of enterprise creations are in the service sector (usually close on 50%), with every country in the North seeing more enterprise creation in services than in commerce and the hotel and catering trade. In these latter sectors, however, closures are exceeding creations in both North and South, whilst the service sector is experiencing more creations than closures (except in Sweden).

Yet, this approach, using aggregate figures, seems inadequate. Which services are we talking about? Services for private individuals, neighbourhood services or high-added-value services for enterprises? This is why attempts to produce a model based on intra-sectoral methods of regulating the demographics of establishments or enterprises, such as the one proposed by Bonnet (1998), seem useful. Using economic indicators, Bonnet suggests that we distinguish four methods of regulation – we leave it up to the reader to match the corresponding subsectors with each of the following definitions:

'❑ *competitive sectors that are slowing down*, where we are seeing a drop in the number of establishments and enterprises, though with the possibility of a strong revival if the barriers to entry (measured by average size of workforce) are weak;

- *growing competitive sectors*, where numbers of establishments and enterprises are rising, particularly in sectors with weak entry barriers, and where the number of enterprise closures (voluntary cessation of activity and bankruptcy) is increasing because of the high number of enterprise creations;

- *concentrated sectors*, which set up *strategic entry barriers* (price policies, commercial capacities, etc.) that obstruct enterprise creation. This means there is a low turnover in terms of the production fabric;

- finally, *concentrated sectors* which operate a more subtle regulation of enterprise flows, combining, on the one hand, *opportunities for entry into market niches* or technological niches (presence of markets that are dismissed by large enterprises because they require the use of highly specialised technologies which are dependent upon the knowledge of a few specialists who have decided to exploit some spheres on their own account) and, on the other, *restructurings*.'

3.3.4 The social determinants of 'enterprise spirit'

An imagery deriving from neoclassical thought continues to perceive the entrepreneur as an isolated player, free of all determination, spontaneous and endowed with exceptional personal faculties that set him apart. This is the simplistic reading commonly applied to Schumpeter's theories[50]. However, most current research on entrepreneurs is trying to prove the influence of their 'social capital', their ability to '*entreprendre*' [undertake] (Boutillier and Uzunidis, 1999). Far from necessarily being an initiator or pioneer in an area in which 'imitators' dominate (Paulini, 1997), entrepreneurs tend to come at the end of a long family line, often through several generations, and operate in a clearly defined sociocultural environment. This is why we need to study their socio-occupational backgrounds, the beliefs that result from that background, and the processes that have led them to create an enterprise, being careful not to confuse, as is too often the case, 'their moral and ethical value system' (Max Weber), which usually tends towards *individualism*, with the process of creation, which instead highlights the *interactions* between creators and their original or current social or occupational environment, institutional aid or partnership opportunities (enterprise/university), circles of innovators, etc.

Hence the many current categorisations that distinguish, for example, entrepreneurs 'from entrepreneurial environments' and 'constrained entrepreneurs' (Bonnet, 1998), 'emerging entrepreneurs', capable of seizing a market opportunity previously un- or underexploited by other enterprises, and 'adaptive entrepreneurs', who are reacting to unemployment and/or job insecurity (Marchesnay, 1986). Hence also the value of studies that cover the transitions between paid employment or unemployment and enterprise creation and self-employment (on this point, see the works of Caussat and Olier, 1997; Aucouturier, 1994, 1996, for France). In particular, Aucouturier shows that unemployed people in receipt of aid for enterprise creation usually create smaller enterprises than other entrepreneurs, that they are, in other words, not employers in the same way as other entrepreneurs (82% have no employees and three-quarters of them are sole traders, particularly in the craft sector and commerce).

Hence, finally, a recent focus on alternative forms of creation and enterprise: 'new socio-economic entrepreneurship' (OECD, 1998. pp. 125-139), 'integration enterprises', most of which are very small, 'associative' or 'intermediate' enterprises, etc., not forgetting research on 'interstitial' entrepreneurial crea-

[50] Indeed, it is at the price of a loose interpretation that the Schumpeterist entrepreneur appears to be an isolated player in full control of his intentions for, although for Schumpeter, an entrepreneur questions routines, he is nonetheless influenced by the socioeconomic system of which he is a part: 'economic and social phenomena are moved by an internal impulse and the resulting situations force individuals and groups to adopt, for better or for worse, specific patterns of behaviour: not, of course, because these situations deprive them of their freedom of choice, but because they shape their preferences and reduce the number of choices open to them' (1979, p. 17).

580

tivity in the urban environment (Roulleau-Berger et al., 1997) or in immigrant communities in many European countries.

In the end, it is the figure of the 'socialised' entrepreneur that emerges, whether researchers place the emphasis on family environment (Carrasco, 1997; Lafferrère, 1998; Boutiller and Uzunidis, 1999), sociocultural and political context (as in the case of the Italian industrial districts or 'regionalist' studies of the UK and Sweden), or on the individual occupational backgrounds of enterprise-creators, and especially that of the professional or managerial staff who leave large enterprises or consultancies to set up their own small enterprise (case studies by Ardenti and Vrain, 1998).

In the first case, there is abundant literature and it would be presumptuous to attempt to draw up an inventory. We shall, however, mention the work of Monchois and Bonneau (1996) who, on the basis of an extensive study of 81 000 newly-created enterprises in 1994, show that 42.1% of those creating or relaunching them had previously been in employment, 43.6% had been unemployed (61% for less than a year) and 14.3% had been occupationally inactive. Asked whether anybody in their family was an enterprise head or in self-employment, 72% said yes and 28% said no. Similar results have been obtained by a number of research projects at European level, both recently and in the past (Gollac and Laulhé, 1987; Viennet, 1988; Keeble and Walker, 1993). Kombou and Kochanski (1988) also demonstrate the influence of the enterprise-creator's social category on the sector and size of the enterprise created.

So, what is to be done about the difficulty of gaining access to credit, which is often said to prevent potential entrepreneurs from putting their ideas into action? Of course, the hypothesis of a connection between a person's inheritance and the likelihood of their setting up in business on their own account has been formulated and verified many times on the econometric level, particularly in the English-speaking countries. What emerges from the most recent research on entrepreneurship, however, is that policies to aid or encourage enterprise creation cannot be reduced to their financial dimension or replace the transmission of 'informal human capital' (Lafferrère, 1998)[51].

These results determine our understanding of the limitations of the most voluntarist public policies that seek either to promote enterprise creation by limiting unemployment benefits (leverage on the supply side of labour) or to arouse or reawaken 'the enterprise spirit' or 'entrepreneurial culture' by lowering the cost of labour, reducing administrative constraints and costs or neutralising trade union pressure (leverage on the demand side). The former ignore the fact that it is in the regions least affected by unemployment that enterprise creation is most dynamic, as shown by Meager (1992) in the cases of Germany and the UK; the latter, by doing nothing about the social factors that determine people's ability to become entrepreneurs and offering indiscriminate support to SMEs, fail both to stay the unequal development (on both the socio-

[51] Laferrère's research in France offers some very interesting findings: firstly, 64% of self-employed people have a self-employed father or father-in-law (and the figure is still 30% if we exclude farmers); self-employed people have few qualifications (51% did not progress beyond primary-school studies and 9% have a university qualification, as against 39% and 17% for all employees, excluding self-employed people in the liberal professions). Also, among self-employed people, qualifications (particularly beyond *baccalauréat* level) tend to have a negative effect on the probability of becoming an entrepreneur; in other words, the more qualified the son of a self-employed person is, the less likely he is to become a self-employed entrepreneur. These comments apply particularly to self-employed traders or craftspeople, as opposed to 'heads of enterprise', whose formal human capital is often similar to that of employed people. Finally, we should note a very important finding: using a variable of 'length of time between leaving the school or university system and entering paid work', Lafferrère (1998) finds this period to be twice as long in the case of self-employed sons of self-employed fathers as it is among employees (three years as against a year and a half). This means one might hypothesise that this period is a period of unpaid apprenticeship with the parent, which, though not leading to a recognised qualification, favours the informal transmission of entrepreneurial knowledge and know-how. An argument to remember for the third part of this report on vocational training.

logical and geographical levels) of this ability and, as we shall see, to create a significant number of jobs.

3.4 For a demography of SMEs nonetheless...

Despite the relativism that is a feature of their definition (see earlier in this report), we still need a demography of SMEs. In an economic context marked by significant change, it is as important to study their physiological dynamics as it is to study their anatomy or morphology. We therefore need to pay attention to their *metabolism* when they are simply cruising along nicely, their *catabolism* when they are going through a period of decline and their *anabolism* when they are going through a period of development[52]. And why not a genetics of SMEs, or even an embryology, capable of identifying the forms and movements that precede their administrative birth?

3.4.1 From anatomy to physiology

With the demography of SMEs, we shift from anatomy to physiology, since it involves studying the creation and disappearance of enterprises or, more precisely, three aspects of their dynamics: 'their entry into, growth in and exit from' the production system (Moati et al., 1997, p. 5). We shall not dwell here on the formidable methodological and practical problems posed by measuring and observing these variables, particularly from a comparative viewpoint at European level. The European SME Observatory makes regular mention of it and demonstrates that there is no standard definition of the creation and disappearance of enterprises, that the breadth of the definition varies from one country to another (ENSR, 1996, pp. 131-136). Although, for example, Germany and Austria have high rates of creation, this is largely because these countries use a *broad definition* of the notion of creation. Conversely, although Denmark, Spain and Portugal have low creation rates, this is a reflection of the *narrow definitions* and sources adopted in these countries.

It is therefore important not to forget the extreme diversity of *entry* methods (creations from scratch, re-launches, takeovers and acquisitions)[53]. *Growth* also implies several independent or associated methods: internal, external, contractual (assignment, cooperation, alliance), and, of course, *exits* might imply redeployment (moving out of one sector into another), cessations of activity, voluntary changes in legal status (re-launch, takeover), or involuntary exits caused by failure or bankruptcy[54]. What sources do we use? What unit of investigation (establishment, enterprise, group)? What level of aggregation do we choose? These are the questions most commonly put forward, but we shall not be examining them here; instead, we shall be concentrating on the main themes and results that seem to be most certain in European research on the demography of SMEs.

Four main issues are usually covered in the literature: 1. Who are the new entrants and what processes underlie the emergence of new enterprises? 2. What are the main factors determining entries? 3. When the focus is on entry and exit flows, it is the phenomenon of volatility that holds the attention; 4. Finally, what interpretations can we make of the movements of SMEs as a whole in the economic system? We shall examine these questions one by one.

[52] Particularly the specific 'turbulence' of the SME environment. Birch, for example, commented that enterprises that develop harmoniously during their first five years then come up against difficulties and often disappear, whereas those that have reached maturity and show all the signs of good health have, by contrast, usually had a difficult beginning. Is it not possible that the metabolism so typical of young SMEs has an *educational purpose*, via trial and error and the gradual discovery of the most effective production combinations? (Dalle et Bounine, 1987).

[53] According to Bonneau and Monchois (1996), the breakdown of entry methods in the case of France in 1994 was as follows: 7.9% pure creation; 2.6% reactivation; 2.1% relaunch, or a total creation rate of 12.7% for the entire economy, excluding agriculture and financial services.

[54] In France, although 210 000-240 000 enterprises, or about 10% of all enterprises (excluding takeovers), cease trading every year, there are on average four times more cessations without liquidation than there are bankruptcies (Francoz, 1996).

592

Box 3.1. Enterprise creation and job creation: a few determining factors[56]

The size of the enterprise when it is created: enterprises that have no employees at the outset create fewer jobs (Dunne and Hughes, 1994; Saporta, 1994; Mouriaux, 1994).

Legal status: sole traders create fewer jobs than small structures taking the form of limited companies (Brun and Mouriaux, 1993).

Methods of creation: although pure creations are in the majority, they create fewer jobs than re-launches or acquisitions (Bonneau and Francoz, 1995).

Regional or local environment: spread of role models in the environment (Büchter, 1998; Johannisson, 1993); effects of geographical concentration (Italian industrial districts).

Trading strategy adopted by the enterprise-creator: independence from distribution circuits (or direct contact with the end client) promotes job creation, as do differentiation or niche strategies as opposed to price competition (Trouvé, 1999); subcontracting SMEs also tend to be less secure (Fieten, 1995; Koch and Strutynski, 1996).

Sector and/or branch of activity: services tend to create more jobs than industry (Leicht and Stockmann, 1993; Sorge, 1996), but intra-sectoral manoeuvres are more decisive than sectoral factors (Kotthoff and Reindl, 1990). There is some uncertainty about the number and quality of jobs created by small 'high-tech' firms (Oakey, 1991; Nerlinger, 1998).

Occupational background of enterprise-creators and self-employment: the former unemployed create more small enterprises than other groups (82% have no employees when they set up their enterprise); unemployed people in receipt of aid provide less employment than any other group of enterprise-creators and the enterprises they set up tend to be one-man businesses (three-quarters of enterprises, as against one enterprise in two created in the form of a company by a person previously in employment; the former unemployed usually set themselves up as craftspeople or salesmen (Aucouturier, 1997).

3.4.2 More pure creations than transfers[55], but fewer jobs than in existing or re-launched SMEs.

With regard to *new entrants* and despite the various definitions (broad or narrow), the majority of studies indicate that most entry flows are accounted for by very small structures that emerge from nothing. In France, in 1994, pure creations accounted for 57% of enterprise creations, and 73% involved enterprises with no employees (nearly 60% in industry alone). We shall see later, moreover, that these figures are vital if we are to understand the link between enterprise creation and job creation, since, combining case studies and national macrostatistical analyses, many authors succeed in demonstrating not only that recently-created enterprises make a lesser contribution to employment than creations involving the transfer of activities, but also that the more employees they have at the outset, the stronger their chances of creating jobs (Mouriaux, 1994; Bonneau, 1994; Bonneau and Francoz, 1995).

[55] These are forms of creation involving the total or partial transfer of existing activities (Mouriaux, 1994), that is, the creation of new subsidiaries, takeovers and mergers, delocations and changes of activity.

[56] Our concern here is less the factors determining enterprise creation than the factors that influence job creation via enterprise creation.

BEST COPY AVAILABLE 583

In other words, although one might rejoice at the fact that creations from nothing account for the large majority of new enterprises (57%, according to Bonneau, 1994), enterprise creation does not necessarily mean the creation of a new activity, since 'externalisation, virtual employment and also re-launches or the creation of subsidiaries are all parameters that limit the field of genuinely new enterprises'. Nor is it synonymous with 'job creation', since, during their first five years of existence, pure creations generate about half as many jobs as re-launches and acquisitions (Bonneau and Francoz, 1995). For example, in the early 1990s, just 1.1% of enterprises created and re-launched in France had more than 190 employees on start-up. In the UK, 74% of enterprises created between 1987 and 1989 employed fewer than five people in 1989 (Daly et al., cited by Love, 1996), but it might also be noted that the percentage of newly created enterprises whose initial workforce comprised 1-4 employees varied from 10% in Denmark and Sweden to 48% in the UK, 36% in the Netherlands, 21% in France and 26% in Italy (European Commission, 1998, p. 73). Generally speaking, however, enterprises entering the production system as a result of acquisition or the setting-up of a subsidiary are, on average, smaller than those resulting from pure creations, though they are also less numerous in most countries.

3.4.3 The main determinants of the demography of SMEs

Many works tackle this decisive issue, but without obtaining any definitive results. The factors determining the dynamics of SMEs, taken as meaning the development 'from birth to death, through all the changes they undergo in the interim', are both multiple and in complex interaction (Karlsson, Johannisson and Storey, 1993). This is why we have to appreciate and admire the systematic survey conducted by Moati et al. (1997) of the international literature – multidisciplinary, both theoretical and empirical, on the microeconomic and sectoral determinants of enterprise demography. This is why we shall pursue this point. In the case of microeconomic determinants, there is an abundant harvest leading to some unquestionable results, but they are insufficient to 'reveal the full complexity of the phenomena under study'. In the case of sectoral determinants, research is focusing increasingly on segmentations, the purpose being to demonstrate the intra-sectoral efficiency differentials between enterprises, as strategic variables (Trouvé, 1999).

It is becoming apparent, in the case of enterprises being created from scratch, that, in addition to sectoral variables and the 'technological regimes' (Audretsch, 1995) that are a feature of such enterprises (attractiveness, extent of entry barriers, etc.), the weight of the creator/manager's personal characteristics is vital (ability to seize opportunities, mobilisation of networks, personal background, etc.). This aspect is covered by all the research on 'entrepreneurship' that we mentioned earlier. We shall concentrate here on the factors determining growth and 'exit'.

As regards the growth of enterprises, the superiority of VSEs (fewer than 10 employees) with the largest number of employees at the time of creation is once again confirmed (Moati et al., 1997, p. 34; Dunne and Hughes, 1994, on British figures; Dunne et al., 1988, on the USA).

With respect to the microeconomic factors determining exit, it is mainly the size and age of enterprises that have been studied. We know that the survival rate of newly-created enterprises five years after start-up is 49% in France and that it is surprisingly similar and stable in most other European countries: 49-53% in the UK, 58% in Ireland, 45% in Italy, 60% in the Netherlands, 50% in Portugal, etc. (Moati et al., 1997, p. 41). Drawing on a study of establishments in the American manufacturing industry, Audretsch (1995) has shown, for example, that 57% of exits involve establishments that have been in operation for fewer than 10 years (of which 19% involve establishments that have been in operation for one or two years), as against 23% involving enterprises that have been in operation for more than 20 years.

Birch (1979, 1987) had already pointed to this: newly-created small enterprises are faced more than anything else by a serious selec-

584

tion process during their first few years of existence. It is also during this period that they can best test their relative efficiency level (Jovanovic, 1982), and those that survive for more than five years are not the ones that have experienced the fewest problems – quite the contrary (Dalle and Bounine, 1987). This means that, from a strictly empirical viewpoint, there is a link between the size and age of enterprises and the likelihood of them leaving the production system: in France, in 1996, 90% of failed enterprises had fewer than 10 employees. It might be argued that, whilst large enterprises (or establishments) are slimming down but have a greater chance of survival, the smallest, youngest SEs are more likely to disappear than in the past.

However, there are other factors determining exit, that is, the disappearance or transformation of small enterprises. This is paradoxically the case of 'entry methods', that is, their creation: in France, SINE data (INSEE) show, first and foremost, that, during SEs' first few years of existence, the mortality rate of pure creations is higher than that of re-launches. Then, size on entry, which should certainly be a decisive variable guiding public policy, is once again highlighted: still in France, the survival rate after five years for one-man businesses set up in 1987 was only 45%; the percentage rose in line with size, reaching 65% for enterprises with 6-9 employees and 10 employees or more (Bonneau and Thirion, 1997). The American and German figures are identical. Of course, accounting ratios (debts/own funds) are not ignored by management-centred research. For example, ability to access external funding: an enterprise that benefits from bank support has a stronger chance of survival. Similarly, more and more research is emphasising the importance of 'intangible' support networks (advice, training and information) in improving SEs' survival rates and chances of consolidation during periods of growth.

The profile of enterprise-creators is also used to explain SEs' likelihood of survival, particularly their age and the significance of their cultural capital (qualifications, occupational experience): examples are Brüderl et al. (1992) in Germany, Storey (1994) and Cressy (1996) on British firms, Bonneau and Francoz in France (1995), etc. In this case, as in the case of factors explaining growth, chances of survival are positively affected if the enterprise-creator is a former professional or managerial employee or was previously self-employed and has had access to advice during the start-up phase. Works on the strategic positioning of enterprises are both scarce and in their infancy because of economists' and sociologists' reluctance to acquire and apply the knowledge specific to management disciplines (Trouvé, 1999).

3.4.4 The ambivalence of technological intensity and innovation

One might also cite technological intensity and capacity for innovation, which EU decision-makers have often seen as an essential vector of the creation, development and survival of SMEs. However, these variables, which cannot be taken for granted, prove to be particularly ambivalent according to several pieces of research. As regards the technological intensity on which considerable expectations tend to be based (small 'high-tech' firms), it is by no means certain that it automatically guarantees SMEs' success or the generation of a significant number of jobs. It would be worth assessing the growing significance of 'investments of form', intangible investments (training, organisation, human-resource-management technologies, mobilisation of networks) in the new operational regimes being adopted by SMEs (De Banville and Vennin, 1999; Ganne, 1999).

Similarly, as regards innovation, it would be wrong to believe that SMEs are by nature more innovative than large enterprises or that those that develop the most strongly and rapidly have higher levels of productivity and innovative activity, as is a little too naively thought by a number of commentators (such as Geroski and Pomroy, 1990; Geroski, 1995), following on from Audretsch (1991). The reverse sometimes proves to be true, that is, that product and process innovation is positively correlated to increase in size (Hughes, 1997, Figure 4), and, here too, the most recent research tends not to exaggerate the importance of technological innovation, since there is no question of determinism (Baldwin, 1995), even if there is sometimes noted to be

a very positive relationship between innovation during one period and chances of survival during a later period (Cosh, Hughes and Wood, 1996a, b). What are we talking about? Breakaway innovations or incremental innovations (that is, marginal and progressive)? Product innovation, process innovation or organisational innovation, which it is increasingly difficult to separate? Not to mention the great variety of effects these different types of innovation might have on employment.

In many cases, it is neither technology nor innovation that are in themselves a distinct advantage for SMEs, but rather their place on the market and in the value chain or their geographical consolidation – which brings us back to research on sector, industry or system (Courault, Trouvé, 1999), even regional differences (see, on this point, Davidsson et al., 1993; research on 'innovative environments', Aydalot, 1986; Julien and Marchesnay, 1996, pp. 89-102; and virtually all the Italian researchers), when it is not a question of more subtle intra-sectoral differences (Kotthoff, 1993; Fernández, 1993) or strategic positioning (Trouvé, 1999).

As we shall see when we come to look at employment, SMEs tend to operate on interstitial markets. Where, despite everything, they enter a sector that is highly capital-intensive or characterised by substantial economies of scale – except in the case of an acquisition rather than a pure creation – SMEs' survival becomes more difficult and their independence is at risk. 'Grow rapidly or disappear', this is the dilemma these SMEs face when they come up against what Audretsch (1995) calls 'the barriers to survival'. The significance of these barriers, together with 'barriers to entry', means that the sectors concerned tend to contain a fringe of ephemeral small enterprises, which explains the high level of constant entry and exit flows and, therefore, SEs' volatility, at both sectoral and macroeconomic level (see, in particular, Dunne et al., 1988; Geroski, 1991).

It is clear that, provided we distinguish clearly, as advised by Evans and Siegfried (1992), between the influence of sectoral features on the demography of firms created from nothing and their influence on the demography of units created by firms *in situ*, the significance of the sector is confirmed. However, it is to be regretted that, on this point, most of the research currently available focuses almost exclusively on industrial sectors, when all the statistics show that service activities are more volatile. Also, sectoral analyses are too superficial and incapable of giving an account of the more subtle intrasectoral segmentations that alone can both explain some of the efficiency differences between enterprises in the same sector and demonstrate that SMEs and large enterprises in the same sector are not necessarily in competition with each other.

It is moreover this relationship between SMEs and large enterprises which forms the basis for the analyses of the current evolution of systems of production.

4. SMEs as players on the labour markets

What real contribution do SMEs currently make to employment? What characterises those SMEs that create the most jobs (key variables: size, sector, strategies)? Is it true, as is often said, that SMEs are the best places for getting young people into work, or older workers back into work? What is the current place of self-employment? These are the questions we shall try to answer here as we look in particular at the formative role of SMEs in labour market dynamics.

Most of the research published in the developed countries over the last 20 years has shown that small firms play the greatest role in creating new jobs. With unemployment rising, these findings clearly affected political and economic strategies, which therefore sought to encourage SMEs. Apparently simple statements nevertheless hide a large number of questions.

4.1 The quantitative contribution of SMEs to employment: an open question

For example, is it not too easy to confuse the demographic growth in the number of SMEs with the increase in jobs they provide? It is true that in the case of SMEs there is a close correlation between the creation or final clo-

586

sure of enterprises and the creation or gross destruction of jobs. This varies from one country to another, but it is always more evident for SMEs than for LEs. In Spain, in the period 1991-1995, the creation of new firms accounted on average for 38.5% of new jobs created in small firms (less than 200 employees) compared with 13% in large firms (more than 200); in terms of job losses, 22.7% were due to closures of small enterprises and only 16% to closures of large ones. Moreover, recently created enterprises show on average a 15% higher amount of gross job creation than other enterprises (Ruano, 1997).

On the other hand, international comparisons show that while SMEs are increasing as a proportion of all enterprises in most countries, in some employment is rising at the same time, while in others it is constant. Moreover, while, in any given country, there may be a net increase in the number of SMEs as a whole, this does not necessarily result in an increase in employment in all sections of the workforce. In the United Kingdom, for example, only Very Small Enterprises (VSEs) are experiencing net growth in both their number and the number of people they employ. Likewise in Germany, a lot of research has shown that it is firms with 1 to 19 employees in particular that are showing the clearest net employment growth[57].

At the same time, not all small enterprises, especially the smallest of them (VSEs), are likely to be in a transitional stage towards larger units. In the typology adopted by Madinier in 1986, he distinguished roughly between structurally *'dynamic'* small enterprises, which had been expanding steadily for several years, especially those in the tertiary sector with an average of 30 employees, then enterprises *in decline*, mostly with more than 60 employees, especially in the industrial sector, and finally mostly *stagnant* very small enterprises in the commerce and service sectors, which would remain very small or small. This typology is still valid in part today.

Another potential source of confusion is whether people speak of the general contribution made by SMEs to employment or to the *net creation of new jobs*. Are they talking about job creation by existing SMEs or by new ones? On this point, Birch himself had already made the distinction between 'new firms' and 'small firms expansion' (1979). Just as the creation of a firm does not necessarily mean the creation of new activity (see Part I), job creation does not mean the creation of new jobs.

Also, while some SMEs create a lot of jobs, others also destroy a lot. There are even some that create and destroy jobs simultaneously. More than that, those that create the most jobs are sometimes the ones that also destroy the most, as the French Employment Ministry's DMMO/EMMO surveys regularly show[58]! Hence the need for a clear distinction between stocks and flows of jobs (like stocks and flows of enterprises) and gross creations and destructions and net creations of jobs.

Finally, when speaking of the contribution made by SMEs to employment, we should always distinguish their endogenous growth from the flows of exogenous creations and destructions resulting from the dynamics of the productive apparatus (Bonneau, 1994)[59].

[57] In Japan, on the other hand, all sizes are growing in number, but their workforces are relatively constant (Doi and Cowling, 1998).

[58] Monthly Returns of Labour Movements and Monthly Surveys of Labour Movements. The first relate to firms with 50 employees or more, the second to those with between 10 and 49 employees.

[59] According to this author, if we define SMEs as all enterprises with a workforce of 10 to 499, we shall find that the change in their stock is in theory the result of five factors combined: VSEs (Very Small Enterprises) growing and crossing the 10-employee threshold, direct creations of enterprises with at least 10 employees from the outset, terminations of business, SME staff reductions that make them VSEs (again), and staff reductions or the reorganisation of production in large enterprises of 500 employees or more. Loveman and Sengenberger (1991) proposed five reasons for the rise in the proportion of total employment provided by enterprises in the developed economies: an increase in the creation of new enterprises; a fall in the mortality of small enterprises; an increase in the stock of small enterprises ('births minus deaths'); net job creation in existing small firms; and a fall in the number of jobs in existing large enterprises, making them, in the course of time, small firms (again).

All the questions raised bring us back first of all to a methodological debate from which we shall try to draw the main lessons. This debate is dealt with in particular in two OECD publications (1996-a; 1998: pp. 49-52). In most countries, macrostatistical corpuses are used to detect not only the relative performance of SMEs in job creation (gross, net) but also the main variables in the creation, destruction and simultaneous rotation of jobs.

4.1.1 The seminal work of D. Birch on the volume of employment

As we have already mentioned, it was David Birch (1979) who initiated a cycle of research on the relationship between enterprise size and job creation (see introduction) that has continued unbroken. He found that 82% of the new jobs created in the American economy between 1969 and 1976 were created by SMEs with less than 100 employees. He repeated the work (Birch et al., 1997) for the period 1992 to 1996 (86% of net job creations).

After Birch, a lot of studies claimed to reach similar findings, and for a long time these fed through into the official pronouncements of politicians and economic decision-makers. We saw earlier that the Anglo-Saxon tradition is particularly prolific, with, for example, Gallagher and Steward (1986), Doyle and Gallagher (1987), Daly et al. (1991); but if A.-G. Schmidt (1996) is to be believed, German researchers have not been outdone in the matter (Bade, 1985; Bock, 1985; Dahremöller, 1985; Irsch, 1985; Fritsch, 1984; Hull, 1984; Steinle, 1984). All these studies used longitudinal panel data and took more or less the same approach: they looked at the number of new jobs created by growing establishments or enterprises and the number of jobs destroyed by establishments or enterprises losing jobs and established the difference between the two, that is the net creation or destruction of employment. When the rates of job creation, job destruction and the net employment trend (job creations less destructions) were calculated by size of enterprise, small establishments or enterprises then generally seemed to have the highest rate of creation and destruction. Also, the net trend seemed greater for SMEs than in large enterprises.

4.1.2 An unquestionable contribution to the stock of jobs ...

No one denies that SMEs are 'providers' of jobs. In the EU alone, we have in fact seen that they now account for more than one job in two and, in particular, among them, VSEs (less than 10 employees) employ as many people as large enterprises (employing over 250), that is 33% as against 34%.

Neither is there any doubt that this proportion of jobs in SMEs (regardless of the statistical definition adopted) has grown steadily over the last twenty years (Sengenberger et al., 1990; Robson and Gallagher, 1994; Storey, 1994). This is a powerful and more or less general trend going hand in hand with the general reduction in the average size of enterprises and establishments, especially in manufacturing industry.

Finally, in the period 1988 to 1998, Very Small Enterprises seem to have stood up the best between 1990 and 1993, when all sizes of workforce were affected by the decline in employment (ENSR, 1996: p. 69, 1997: p. 62).

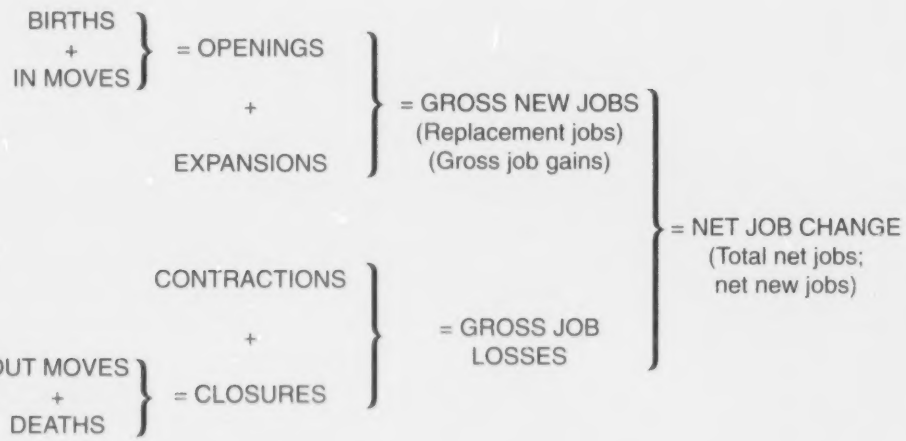
4.1.3 ... but questions regarding their role in net job creation

These are therefore all established facts, but if we look beyond excessive generalisations, a number of questions arise which, while not raising fundamental objections, do seriously put into perspective or clarify excessively blunt opinions. Apart from the national, regional and sectoral differences (Steinle, 1984) that must always be taken into account, we shall now briefly review the questions raised.

Methodological difficulties

In the most recent work on the contribution made by SMEs to the volume of employment, all or nearly all researchers have begun by stressing the methodological inadequacies and unsuitability of the databases used by Birch and his successors. For example, by using other techniques considered more reliable and subject to a strict distinction between 'gross creations' and 'net creations' of jobs according to a scheme repeated many times

Figure 4.1 The job generation process



Source: Storey and Johnson (1987a).
NB.: terms in parentheses are synonyms.

in the literature (Figure 2.1), some have arrived at very different results. Such is the case, for example, of Hughes (1997)[60], or Davis, Haltiwanger and Schuh (1996), who are probably the most critical of what they call the 'conventional wisdom'. Using new calculation techniques, these authors in fact show that while SMEs show larger gross job gains and losses than large enterprises, 'we find no strong or systematic relationship between net job growth rates and either firm or plant size' (1996: p. 312). They also pave the way for a more qualitative approach, claiming that large enterprises and existing jobs show greater security and 'durability' than small enterprises and new jobs.

In general, the literature contains two arguments and two caveats that have to do with the selection bias of the reference samples. They are set out in highly pedagogical fashion by Baldwin and Picot (1995: p. 319):

1. First, there is the 'size distribution fallacy', which fails to distinguish between stocks and flows of jobs (Maurin, 1995) and overlooks the threshold crossing phenomena between surveys (Story, 1994): a positive employment balance in one size category is just as likely to be the result of an increase in that particular category as of a reduction or increase in size categories immediately above or below. It is in fact difficult for successive interval panel studies to take account of such exogenous job movements. The very concept of a process is glossed over, and what makes matters even worse is that production systems are always being reconstructed and the size of establishments is tending to fall. Longitudinal data would therefore be needed allowing individual establishments to be identified. Even this approach however is not immune to error and no doubt requires considerable resources.

[60] 'Net job 'creation' is the difference between gross job 'creation' and gross job 'destruction'' (1997: 5).

2. Then there is the 'regression-to-the-mean fallacy' caused by temporary deviations between employment and the optimum size of enterprises in the long term. The ones that regress are those that have just grown in size, and those that increase have had to cut back their workforce temporarily (Hughes, 1997). By using different techniques to correct the effects of this bias, Baldwin and Picot (1995) nevertheless manage to show that the net creation of jobs is still higher in the smallest establishments than in the large ones.

It could also be pointed out that all this research was conducted in the main in the manufacturing sector and in the context of North America. The inclusion of service activities could change the picture radically. Moreover, what it tends to call into question is not the general contribution made by SMEs to employment but the overestimating of it.

Endogenous or exogenous creation?

Another question arises concerning the interpretation of the statistical data. Is the role played by SMEs in job creation strictly *endogenous* or is it derived from *exogenous effects*, in particular the process of slimming down or externalising the categories of larger enterprises?

This question is in particular very much to the fore in German literature starting from the mid-1980s. Reviewing most of the relevant work, A.-G. Schmidt (1996) notes for example that a large proportion of the jobs created in SMEs are the result either of strategic reorganisation by large enterprises seeking to focus on their core business (downsizing, outsourcing, development of subcontracting), or of the creation of subsidiaries or franchises: in a number of databases, for example, the opening of a new shop by a retailing group may appear as the creation of a new enterprise. In all these cases, even if there is a marked trend towards smaller and smaller production units, this is not sufficient reason to describe them as '*mittelständische Unternehmen*' [small and medium firms] in the qualitative sense (A.-G. Schmidt, 1996: p. 550).

The author draws from these findings a conclusion concerning public policy: 'if relevant statistical data are missing, then there is no sound empirical basis for economic policy decisions' (p. 551). In this, he is supported by a number of Anglo-Saxon authors who hold that, even if small firms are a major source of job creation, there is no sound evidence that public expenditure on job creation has a greater impact when concentrated exclusively on small firms rather than anywhere else (Brown, Hamilton and Medoff, 1990). And unless we are sticking to a traditional, restrictive definition of an SME as a strictly independent unit, why should SMEs forming part of a group, a chain, a district or a network not be described as SMEs? As Hilbert and Sperling stress, 'there is only so much that SMEs can do' [...] (1993: p. 194). From their study of small firms in the Paderborn area, they show that they are not in themselves capable of eliminating mass unemployment. They are, as it were, in the slipstream of Nixdorf, which provides them with an efficient infrastructure, especially for vocational training for their staff.

SMEs create a lot of jobs, but they also destroy a lot ...

Another thing highlighted in research attacking an over generalising view of SMEs as job-creators is that while small firms do create a lot of jobs, they also destroy a lot, which means that they are also and especially involved in *animating the labour market* with constant ebbs and flows and a redistribution of jobs. This was demonstrated at the time by Berthier and Parent (1994) or E. Maurin (1995) for France. Maurin, for example, showed that while small firms (less than 50 employees) made up 98% of the total and accounted for about 55% of jobs (including 26% in VSE alone, i.e. those employing less than 10), in order to obtain 'an annual net change in jobs whose amplitude rarely exceeds 1%, ten to fifteen times as many jobs are gained and lost, and the smaller the firms are, the more they are caught up in this job redistribution' (1995: p. 30). In similar vein, the work done by Birch, which is still quoted in admiration of 'the American job-creation machine', itself stressed the necessary turbulence of environments favourable to the spread and

530

even the growth of SMEs (Dalle and Bounine, 1987).

The same idea comes out in a lot of other research, including that by Davis and Haltiwanger (1996: p. 301) and by Oulton and Hart (1996): SMEs play a key role in the dynamics (creation and abolition, 'creative destruction': Kirchhoff, 1994) and regulation of labour markets. For many of them, the important thing is not to survive but to change. It is nevertheless true that this (liberal) business logic makes little of job instability and the employees who are caught up in these Brownian movements. This is the question we shall tackle in paragraphs 2.3 and 2.4.

... and of those that create jobs, only a few create a lot

Another thing that has an indirect bearing on public policy is that it has been known for a long time that not all small firms are net job-creators and that only a small number of 'fast growers' contribute to the category's overall performance. This is the common theme of a lot of empirical research that has been done in the United Kingdom in particular based on the work of Storey and Johnson (1986, 1987-a). Even if the findings do not always agree one hundred percent[61], the general idea has been confirmed many times over, in particular by Hughes (1997) and also by Gallagher and Miller (1991) who, after many doubts, ultimately come out in its support. In a comparison of Scotland and South East England, they find that the firms they describe as 'flyers' represent 18% of their sample but contribute 92% of the jobs created. Therefore, 'in essence, any apparent rapid rate of job creation amongst small firms as a whole is strongly influenced amongst small firms, the performance of the group is significantly influenced by only a few fast growers' (Atkinson and Strorey, 1994: p. 8).

Hence the question: what are the characteristics of the SMEs that create the most jobs?

Two questions follow, rather than one. What are the distinguishing characteristics (or 'features') of the minority of small firms that create the most jobs in their category (North, Smallbone and Leigh, 1994, and Westhead and Birley, 1995, for a remarkable analytical text)? What are the constraints, if any, preventing most small firms from growing and which are not experienced by small 'high-flying firms' or 'fast growers'? We shall try to answer these two questions in the section below (4.2), where we consider the main *determinants of SMEs' employment practice*.

Before doing so, however, let us draw two main conclusions from our scrutiny of this vast ocean of research into the relationship between the size of enterprises and their quantitative contribution to employment.

1. From a scientific point of view, first of all, we would point out the contradiction between the extreme sophistication of the measurements used to assess the precise place of SMEs in job creation[62] and the uncertain nature of the results finally obtained. We have to acknowledge the facts: 'the procedure for quantifying the precise contribution made by small firms to job creation is not wholly satisfactorily resolved in current times' (Cowling and Story, 1998: p. 8). In fact, they depend on the tools used, the quantity, nature and size of the enterprises included in different countries' databases, the period covered by the study, the stage in the economic cycle, etc.

2. Hence the tortuous formulations and extreme caution recommended by the European Commission in this field (European Commission, 1998). True, SMEs make an appreciable contribution to the stock of jobs in the countries of the EU and their place

[61] Thus, while Storey, Keam et al. consider that for every 100 enterprises created at the start of the 1980s, at the end of the decade a good quarter contribute 50% of the jobs created (1987), the same Storey notes (in 1994) that only 4% of enterprises created ten years earlier created 50% of the jobs in the surviving enterprises.

[62] According to Kirchhoff and Greene (1998: p. 167), authors such as Picot, Baldwin and Dupuy, for example, have detected no less than 18 methods of calculating the respective contributions of SMEs and LEs to job creation!

> in employment has been growing for several years. But while SMEs tend to create more jobs than large enterprises, they also destroy more. So much so that 'the net flow, that is the difference between job creation and job destruction, seems to be virtually constant irrespective of the size of the enterprise' and 'only the smallest enterprises seem to have a greater net flow', that is, they 'create more jobs than large enterprises'. We should add that this applies only to 'survivors', which are generally young and subject to a very harsh selection process. However, this does not mean that, among the survivors, 'all very small enterprises grow more rapidly than all large enterprises', since 'the rate of growth of enterprises belonging to the same workforce size class, or even the same sector of activity, varies greatly' and so on. In other words, there are other factors (than size) that determine growth in employment (ENSR, 1997: p. 148).

There are therefore two possible ways out of this conundrum. One would be *theoretical or methodological* and would involve examining in more depth and discussing both the data collected, the methods of statistical processing, and the interpretations. This is the path suggested by the OECD (1996), among others. On this point we must note that most of the critical studies made are far from being unanimous. Most of them were made in the United States and in the industrial sector (whereas most SMEs are found in services), and they need to be pursued in greater depth from both the theoretical and methodological point of view and from that of the still very limited international comparisons (European Commission, 1998). They should look at sectors most likely to show the greatest expansion in employment: business services, personal services, leisure, hotels and catering, health and education. Moreover, the studies referred to say nothing about the effect on job creation of the financial and strategic links between SEs and LEs.

Another possible way out is that despite the many uncertainties still surrounding the research mentioned, a few of the best substantiated findings could still be used to try to shed some light on public policies in spite of everything. This is what a large number of UK authors try to do in their discussions of the soundness of the Thatcherite policies of the 1980s. We have already seen that some consider that aids specifically targeted at SMEs could be a problem given the increasing interaction between them and large enterprises and that, secondly, an undifferentiated ('widespread') reduction in administrative and tax constraints could exacerbate the unequal growth in employment among SMEs, some (the 'growers') profiting from this windfall effect while others are left by the roadside because of their poor profitability. One could however, for the same reasons, question aids targeted exclusively at small firms with high potential.

Neither should we forget that the main interest of economic policy should not be the number of jobs but their quality that is their stability, durability and intrinsic quality. Davis and Haltiwanger (1996) have already stressed this, as has Ruano (1997) in Spain. They have nevertheless also drawn our attention to a possible new perverse effect: if public policies are more concerned with the durability and quality of jobs as an objective than with numbers, this destroys the argument that aid should by preference be directed at SMEs, since job quality generally increases with the size of the enterprise.

Finally, as Hughes remarks, the admirable exercises in measuring job creation tell us nothing about 'the direction of causation': 'finally, and perhaps most importantly, whatever may be claimed for job generation studies in terms of numbers of jobs created by size class, they are themselves merely accounting exercises and tell us nothing about the direction of causation' (1997: p. 8). This lack of causal analysis or 'analysis of causation' is moreover just as harmful to the scientific approach as it is to the needs of policy guidance: 'Why so few succeed in sustaining growth?'. The important thing in the latter is to be able to analyse and understand the factors that act in favour of the spectacular or discrete growth of some SMEs at the same time as those that prevent the others from expanding. Why should we not therefore be inter-

592

ested in the youngest SMEs, as advocated by Serra Peris (they grow more quickly, true, but they are more unstable and their development more risky)? On the other hand, why not promote the oldest SMEs, which are stable and survive, as Robson and Gallagher (1994) propose?

This causal relationship is the subject of a number of pieces of research which we shall now examine.

4.2 The main factors determining SME employment practice

Providing we can reconcile two literatures that are traditionally and inexorably separate (the one concerned with growth factors and the other focusing on job creation)[63], one might in general terms distinguish between two series of factors that have been the subject of particular study with a view to explaining how SMEs behave on the labour market.

4.2.1 The traditional variables

❑ The first 'package' would contain the work that has shown the effect of the major sociodemographic variables available in the crudest databases and which are easily objectified. We shall not return to these, since they have been amply commented on earlier in this paper. They are the *size* of the firm, of course, its *sector*, its *life cycle* (i.e. its age), and its legal *status*: independent (self-employed), integrated, in company form or family. On this latter point, it will be noted that most work shows that family SMEs ('family businesses') perform better economically and in terms of jobs than do non-family businesses (see an international survey of such research in Trouvé, 1999: pp. 31-44).

In his analysis of the specific behaviour and development of family businesses in the industrial sector in Spain during 1994 (drawing on the ESEE survey), Juan Casado (1996), after indicating that the skill structures and wages of family businesses are inferior to those of non-family businesses, shows that when the economic cycle was in a 'recovery' phase after the 1993 depression, family businesses (with less than 200 employees) created more jobs than non-family businesses (with less than 200 employees), with +3% growth compared to -0.2%, and more than family businesses with more than 200 employees, which remained stable, while non-family firms with more than 200 employees continued to shed jobs (p. 92). Nevertheless, it is true that today, in Spain as elsewhere, we are witnessing a substantial shift from the core of family funding to outside partners and capital and also an increase in foreign capital (Camisón, 1996-b, figures 18 and 19).

There are however a number of other factors, such as *the mode of production* or *innovation capacity*. According to Atkinson and Meager, who see size as the determining factor but not the only one ('employment size is clearly not the sole determinant of typical small business practices') (1994: p. 32), account must also be taken of four characteristics of the environment: the balance and tensions of supply and demand on the *external labour market*, the characteristics of *other competitors* (are they small or large enterprises? are the products they sell everyday products or not?), the *political and institutional regime* (favourable to SMEs or not?) and the *territorial physical environment* (see figure 4.3)[64].

❑ The second group might include work that is based either on frankly qualitative monographs or on the mobilisation of statistical classifications complemented by supplementary

[63] Hughes is in fact right to make a strict distinction between 'business growth' and 'job generation' (1997: p. 4), since the growth of enterprises (measured by their profitability, productivity or market share) does not necessarily result in a growth in their workforce. It is nevertheless true that prosperous enterprises tend to increase in size (Baldwin, 1995), although the relationship is not automatic, since there are firms whose growth is poor in terms of jobs.

[64] Apart from the Italian work already referred to, which sees the local system as a space for professional mobility (Solinas, 1982, 1996), the decentralisation taking place in most EU countries has, for example, resulted in certain institutional publications developing a regional or even subregional aspect in the light of structural fund programmes (European Commission, 1998: pp. 139-181).

segmentations that can be built only a posteriori from qualitative empirical studies[65]. We believe that over the last few years this second corpus has made the greatest contribution to our knowledge of SME behaviour on the labour market. Although it is part of this kind of approach, we shall not be returning to the effect of the *profile*, the *sociological trajectory* or the *career path* of SME managers. This is known to be a key variable that has given rise to a number of typologies which Ivanaj and Géhin (1997) have recently tried to review for the French-speaking countries. We have already looked at that several times above.

4.2.2 The strategic behaviour variable and SME models

We are more interested in looking at what seems to us to be a new breakthrough in a field that is all the more fertile because it requires a multidisciplinary approach. We are referring here to work on the effect of *competition strategies* on the employment practices of SMEs. We have referred elsewhere to this as yet not very systematised approach based on a survey of the international literature (Trouvé, 1999). We shall discuss it below on the basis of three series of publications: German, British and French.

The work of Leicht and the segmentationist theories

Most German work constantly stresses that, over all, the greatest net job gains observed since the mid-1970s are found in small firms with between 5 and 19 employees (Leicht, 1995; p. 85; Leicht, Strohmeyer, 1995: chart p. 20) and this expansion took place even in the manufacturing sector, which means that, in Germany at least, it is not due only to the development of services, as is too often believed. According to the *Statistisches Bundesamt* [German Federal Statistical Office], between 1970 and 1987 the growth in the rate of employment and enterprises was greatest in those with up to 49 employees, while all the sizes above that stagnated or declined. On the other hand, some sources say that VSEs with 1-4 employees and SEs with 20 to 49 experienced only a modest increase (Leicht and Stockmann, 1993).

What is the reason for SEs with 5 to 19 employees being so prosperous? That is the question that these authors tackle here. They point out first of all that these small enterprises operate in quite specific *branches*[66]: *'Expansion der Kleinbetriebe kommt nur in einer bestimmten 'Branchenumwelt'*" (Leicht, 1995: p. 178) and more particularly on markets not dominated by LEs. We are therefore back with the very old intuitions of W. Sombart, who believed that SMEs essentially occupy three specific areas: 'the area of **individualised** work, in which adaptation to the individual case is required (...); the area of **localised** work, i.e. work that must be carried out in a particular place, and in which a sales area of limited size serves as natural protection for the craft; the area of **repair work**, which is of little interest to capitalism' (Sombart, 1929: p. 27).

The specific potential of SMEs would therefore be explained by their roles as market specialists (*'Marktspezialisten'*) and market localists (*'Marktlokalisten'*) which enable them to retain in the long term ground that is difficult for LEs to access and which is of little interest to them. Leicht also argues that the *sector* is not enough to explain the expansion or decline of certain sizes of enterprises, since the true potential of SEs lies more than anything in their control of particular intra-sectoral segments that include types of production (series or to order, for example) and market. For example, in the small retailers sector we can see both the disappearance

[65] This is the case referred to below of the German works by Leicht; Leicht, Strohmeyer; Hilbert and Sperling.

[66] The authors referred to sometimes use the terms 'branch' and 'sector' without distinction, but we consider the former to be the more suitable because it specifically defines the activity (or activities) of those enterprises which, further on, we shall call the product/effective market pair(s). It is therefore closer to the enterprises' microeconomic operation than the term 'sector', a statistical category that embraces at macroeconomic level 'all enterprises with the same principal activity' (on this point, cf. INSEE, 1997-98 or Morvan, 1985: pp. 345-347).

of *'Tante-Emma-Läden'* (corner shops) and the new expansion of advanced technology centres, organic food shops, video rental shops, etc. For this reason, he proposes an approach that we shall call segmentationalist (*'ein segmentspezifisches Modell'*) capable of differentiating SEs according to their ability to manoeuvre on the market.

He argues that the most prosperous SEs and the ones that generate the most employment occupy in particular segments where they are very close to the final customer, producing goods or services for which there is little demand or for which demand fluctuates greatly, at all events where SEs and LEs are not really in competition with each other. They also require a great deal of decentralisation and a high level of professionalism that most of the time is not conducive to rationalisation, internationalisation or standardisation. Such is the case, for example, of the building craft trades, material services (*'stoffliche Dienste'*), design, construction, installation, repair or maintenance activities, or technologically more modern activities (precision engineering, optics, computer assembly) and professional services to business (accountancy, consultancy) or to individuals (social and health services) that involve an ability to find tailor-made solutions to individual problems (Leicht and Strohmeyer, 1998).

Conversely, where there is direct (actual or potential) competition between SEs and LEs, the former are always under threat. Certain craft activities, for example, or branches covering inflexible basic needs (leather, clothing, food) have gradually been replaced by mass production or delocalised. SEs are therefore expanding in all activities that are remote from mass production and where Taylorist/Fordist concepts cannot apply. Contrary to the thesis put forward by Piore and Sabel (1984), however, the expansion of SEs and their production model does not, according to Leicht, presage the end of mass production, since they are not really in direct competition with LE methods of organisation. Rather, the specific nature of their field of activity makes them structural elements complementary to the production process of large organisations (Leicht, 1995: p. 179).

Alongside the work done by Leicht, we must also mention that done by Hilbert and Sperling (1993). In our opinion, these two authors go further in that they explain the strategic manoeuvres of prosperous, job-creating SEs and try to articulate them firstly with the career paths and profiles of their managers (by distinguishing between, for example, 'technical entrepreneurs' and 'managerial entrepreneurs') and, secondly, with the skill structures of their labour force. They therefore show that there is a great variety of possible developments open to SMEs. They could lie anywhere on a spectrum ranging from an 'offensive productive concept' to a 'defensive productive concept', depending on their degree of dependence on the market.

- In the first concept, the SEs representing about one third of their sample practise a *flexible specialisation* that protects them from dependency or from competing too much with LEs. They are found mainly in the mechanical engineering, machine tools and computer industry sectors. They survive because they specialise in one market (they are *'Markt-Spezialisten'*), because they are able to offer technical backup services and in particular because they have direct commercial access to the final consumer. These SEs develop a policy of having highly skilled staff, recruiting in particular young people from whom they demand a high level of commitment and flexibility. They are generally recent (appearing in the 1970s and 80s) and managed by 'technical entrepreneurs' (*technischer Entrepreneur*), frequently engineers with several years' professional experience in their sector. This offensive production system may of course benefit from a particularly favourable regional labour market, sometimes structured by the presence of large enterprises that play a supporting role: continuing training infrastructure, availability of skilled personnel, etc.

- At the other end of the spectrum, which represents around 40% of the enterprises studied, SEs are obliged to apply a *defensive concept of production*, often accompanied by economic retrenchment and staff cut-backs. Most of them are small firms in

the timber or textiles/clothing industries. Mainly subcontractors (they are '*Markt-Zulieferer*') dominated by their contractors and therefore insecure, one way or another they apply traditional rationalisation models: minimising costs and increasing productivity. Their flexibility is based more on a deregulation of labour relations than on new forms of organisation. They are found especially in the motor industry, mechanical engineering or furniture manufacture.

- Between these two extremes, Hilbert and Sperling identify two other types of SE (1993: pp. 20 et seq.): the 'Markt-Newcomer', that is new entrants, like those that explain the American employment miracle, especially in services. A smaller number are however also found in the manufacturing trades, especially in the creation of craft businesses (Weitzel, 1986); then the 'Markt-Lokalisten' who satisfy everyday needs for goods or personal or repair services in a limited area.

SMEs may therefore move in a broad spectrum ranging from the 'poverty economy' to 'niche production' ('*Zwischen Armutsökonomie und Nischenproduktion*') (Hilbert and Sperling, 1993: p. 130). Like Leicht, however, Hilbert and Sperling show there is no sectoral determinism. For example, in the motor industry, where dependent subcontracting SEs predominate, we can find a '*Produktstrategie der diversifierten Qualitätsproduktion*' (production strategy of diversified quality production) (Streeck, 1986). Likewise, we can find '*Markt-Spezialisten*' (market specialists) in textiles/clothing. These, it is true, are chiefly medium-sized firms that have the resources to give themselves direct access to distribution and the final consumer or to take control of design and innovation higher up the value chain.

For these authors, therefore, the business policy adopted by managers always predominates over the sectoral determinants which, for their part, do no more than define the room for manoeuvre open to the managers' strategic inspiration. This is more or less what Kotthoff and Reindl (1990) also find from their own qualitative empirical material. By focusing particularly on the machine-tool sector, which scientists often use as a model for an innovative and flexible KMU, they manage to distinguish no less than three major types of generic market strategy, analysing their links with work systems and labour relations. Thus, there are both *strategic-conceptual enterprise strategies* ('*strategisch-konzeptionelle Unternehmenspolitik*'), enterprises *shifting to markets* with *economies of scale* ('*auf Massenmärkte und Skalenerträge ausweichende Unternehmenspolitik*') and *traditional reactive strategies* ('*konventionnell orientierte reaktive Unternehmenspolitik*'), each with very different modes of organisation, production and labour mobilisation (1990: pp. 53-72). The same also applies in the furniture industry and in textiles/clothing, where SEs whose operation is based on a great variety of competitive advantages and handicaps may exist side by side.

The competitive variables

Hence the need to pursue further the recent research into the links between competition strategies and forms of employment and labour management in SMEs. There are serious obstacles to such an approach, which by implication involves bringing together the disciplines of industrial and labour economics, the sociology of enterprises and their managers, and management, which are normally institutionally separate, even though they have in common that they have all favoured the large enterprise model. Some studies are today showing the way, however. Of these, one might mention the work by Reid (1993) and Reid et al. (1993) in Great Britain, based on surveys that are already quite old (1985-1988) of recent enterprises (average three years old) employing between 8 and 15 people. They also try to combine quantitative and qualitative methods, field approaches and statistical data, while drawing on the 'competitive advantages' model inspired by M. Porter (1980, 1985).

This train of thought developed later and more sporadically in France owing to a persistent lack of interest in employment matters on the part of managers and no less chronic disdain by sociologists and economists for categories of analysis derived from stra-

tegic management (Julien and Marchesnay, 1988; Mahé de Boislandelle, 1998, 1st ed. 1988; Bentabet et al., 1999; or even Moati and Pouquet, 1996). Unlike G. Reid, most of these researchers are not interested solely in SEs in the start-up phase.

For example, Julien and Marchesnay formulated 'the strong hypothesis of a causal relationship between the firm's strategic management and the practices it adopts for taking on staff and, more generally, in labour management [...]. The policies adopted in labour management may vary according to the competitive advantage sought by the firm ['manager's objectives]' (1988: pp. 242 and 251). Mahe de Boislandelle related the employment variable to the 'basis of competitiveness adopted'. Bentabet et al. ventured to study micro-firms (very often neglected, even in research on SMEs) from intersectoral monographs, trying to model the links between market strategies and labour management and training behaviour. Finally, Moati and Pouquet used an extensive database of 233 industrial sectors to show that '80% of employment flows are intra-sectoral by nature', which means that they are caused mainly by differences in performance between enterprises in the same sector. According to these authors, two factors facilitate job creation: a favourable environment (growth sector, low intensity of competition, etc.) and 'a strategic positioning conducive to differentiation or focalisation, that is non-price competitiveness, which shields them from the imperative of chasing productivity'.

Lastly, we should note a recent compilation of international literature on competitive strategies and employment practices in SMEs (Trouvé, 1999). It is concerned in particular with enterprises in a 'front-line situation', that is fast growing and job-rich SEs, world class SMEs and SMEs based on new technologies. This systematic search comes to the same conclusions: even though the variables of size and sector still seem very significant, they do not go far enough in explaining the employment practices of the SMEs considered. They have to be linked to finer segmentations – through more qualitative approaches, for example – such as the profile and career path of the managers and their positioning strategy (intentional or 'emerging') on specialised or highly differentiated segments. On the other hand, the qualitative analysis of the forms of labour management they adopt would be worth looking at in more detail, as we shall now try to suggest.

4.3 Recourse to the external market and forms of labour management

By dint of studying the contribution made by SMEs to employment on the basis of creations/destructions of enterprises, we might forget that they grow, develop and reach a cruising speed at which they interact with the labour market in a specific way. However, it is only very recently that researchers have taken an interest in this. It is true that the articulation or engaging of small firms with the external labour market, what Atkinson and Meager call 'small business engagement with the external labour market' (1994: p. 38) are very different to those of a large firm. In particular, 'for the small business ... the process is likely to be irregular, less predictable and less capable of systematisation' (idem: p. 39).

In most countries, macrostatistical corpuses are likely to tell us first of all about small firms' *recruitment practices*, especially of young persons being absorbed into employment, from the characteristics of the young people and the jobs they are offered. Exploitations of this kind are nevertheless not yet very widespread, especially when it comes to international, sectoral or intrasectoral comparisons. While a programme of this kind could prove very fruitful, it is still very ambitious, especially since the role of SMEs in regulating employment cannot be considered independently of the schemes that exist in most European countries for introducing people into working life and questions of initial training and the related forms of social recognition of qualifications (Lefresne, 1998, 1999).

Faced with the destabilisation of the internal markets of large enterprises and, at the same time, the proliferation of new forms of employment on the periphery of what was hitherto the dominant model (temporary, part-time or fixed-term jobs, employment-un-

employment and training-employment transitions, insecure status, etc.), might not SMEs act like a 'transitional market' (Gazier, 1998; Schmid, 1998), like an area of 'intermediate positions' between the external market and the internal market (Lefresne, 1998, p. 111) for young persons looking for a way into working life? Looking beyond young people, might not small firms play a role in transition and mobility throughout working life, becoming the preferred way back into work for 'older workers'[67] who have been expelled from large organisations? On the other hand, up to what point is the labour market not nowadays segmented or polarised, with an unbridgeable gap between a relatively stable 'primary' sector of jobs and labour in the internal markets of large enterprises and a less stable, more externalised 'secondary' segment typical of small enterprises?

One thing is certain: the countless surveys of SMEs' supposed skills needs (as of their training 'needs') have shown their limits. Most often commissioned by economic and political decision-makers in a hurry, most of them have resulted only in false certainties ... and in measuring the gaps between the avowed intentions and actual practices of SME managers. Conversely, the more general research into *manpower management practices* in small firms (including job and training management practices) have often proved to be much more illuminating (see in particular Bentabet et al., 1999).

4.3.1 A privileged role in finding young people their first jobs ... and helping 'older' workers back into work

Most European statistics stress the fact that there is always a higher proportion of young workers (aged 15-24) in small enterprises (with less than 50 employees), especially in commerce and hotels and catering (European Commission, 1998: pp. 102-103). For the EU countries as a whole, this would in fact represent about 26% of the persons employed (or around 13% in VSEs and the same in enterprises employing between 11 and 49 persons), compared with only 10% in enterprises employing more than fifty.

In France, even though the DMMO-EMMO[68] surveys have not so far been used very much for this purpose and even though micro-firms (under 10 employees) remain outside their scope, they do provide a good picture of the flows of labour and jobs (entries and exits) by size of enterprise. They again show that it is the smallest establishments in the service, commerce, education/health and social sectors and in personal services that absorb the most entrants, with 18.8%, 18.4%, 13.5% and 11.7% respectively (i.e. 62.4% of entries for all these sectors together). These are however also the sectors with the most exits.

If we take SMEs to be enterprises with fewer than 200 employees, we find that they absorb nearly three-quarters of young people under the age of 25 (73.5%) and even more older workers (77%), 42.7% of them in SEs with fewer than 50 employees alone (Table 4.1)[69].

Looking at the levels of training shown in the Employment Survey data, we find that 42.2% of young people completing vocational training of levels V and V bis are taken on by VSEs, compared with 28% for levels III, II and I, most of whom (51%) are recruited by large enterprises with over 500 employees. There seems therefore to be quite a clear break between the two groups of beginners and of enterprises: there is a larger proportion of the

[67] According to the INSEE definition, 'older workers' are those over the age of 50.

[68] The Monthly Return of Labour Movements (DMMO) for establishments of 50 employees and over and the Survey of Labour Movements (EMMO) for establishments of 10 to 49 employees allow us to establish, among other things, both the number and the type of contracts concluded and the reasons for cancellation or leaving by occupational categories during each month or each quarter preceding the survey.

[69] The data in Table 4.1 and the figures that follow concerning the Employment Survey (Trouvé, 1996) are taken from personal processings of the DARES files (*Direction de l'Animation de la Recherche, des Etudes et des Statistiques* [Directorate for the Promotion of Research, Studies and Statistics], Ministry of Employment).

Table 4.1: Breakdown of entrants by age and size of enterprise in France

	Size of enterprise				
Age groups	10-49 employees	50-99 employees	100-199 employees	200 employees and more	Total
14-25 years	36.5 %	18.5 %	18.2 %	26.8 %	100 %
51 years and over	42.7 %	17.1 %	17.1 %	23.1 %	100 %

Source: Dares, DMMO, EMMO surveys, 1996.

less well qualified (levels V and below, i.e. V bis and VI) in SEs, while persons with higher education (especially vocational qualifications: levels III and above, i.e. II and I) are more easily absorbed by SMEs with more than 50 employees and especially by large enterprises employing more than 500. Young entrants of level IV (that is, leaving secondary education with the equivalent of ISCED 3 (International Standard Classification of Education in the European nomenclature) are more or less equally divided between enterprises of less than 50 employees and those with more than 50, but while this level seems to be a 'floor' for the larger enterprises, it looks more like a 'ceiling' for the smaller ones.

4.3.2 Internal markets and dualisation of labour in SMEs

The opposition between large enterprises and SMEs has all too often been superimposed on the dualist segmentation of internal market and external market and, even more, associated with the primary market – secondary market split. To simplify a little, we could therefore distinguish between large enterprises providing internal stability and mobility, high wages, good working conditions and career prospects and where the organisation would contribute to training for recognised qualifications ('primary market') and small enterprises where the opposite characteristics prevail, that is making much use of the external market, paying low wages, individualising the wage relationship and neglecting working conditions and the lever of continuing training ('secondary market').

This is without counting the fact that, in theory, internal markets are not confined to the administrative unit of the enterprise (there are trade or sector internal markets in which SMEs are involved and which allow employees to pass from one establishment to another without leaving their trade or profession, as in hotels and catering or building and civil engineering) or the physical boundaries of the establishment (e.g. establishments belonging to a network or forming part of a group). True, the alternative: renewal of the workforce / internal mobility is still statistically relevant for contrasting SMEs and large enterprises at least in part (Podevin, 1990; 1994), but an over-stylised reading of dualism fails to take proper account of a number of empirical observations that reveal an internal market and indeed a dualism of labour even within SMEs (Trouvé, 1995: pp. 148-150). Thus, it is not rare, even in very small enterprises, to see the coexistence of, on the one hand, a relatively stable and generally old market segment (employees of 10 to 15 years' standing), loyal and well trained, the hard core of the workforce, and, on the other, a segment of rather young workers moving on the periphery and whom Ses have a lot of difficulty in retaining (Bentabet et al., 1999: pp. 78-79) and it is no doubt in this light that the famous 'skills needs' of SMEs ought to be examined.

This is the 'mixed market' concept advanced by Gambier and Vernières (1991) and which would seem in the end to be the most appropriate for understanding that several forms of market may exist side by side in the same SME. Thus, 'the enterprise's employment practices would be the articulation of two aspects – internalisation and externalisation – that could at any given moment predominate to a greater or lesser extent'. Considering 'human

resources management' to be a border function on the intersection between the external and internal market, Hendry et al. (1991: pp. 37-39) are saying nothing different when they state: 'many of the SMEs possess a variety of skill groups and operate simultaneously within a number of labour markets', concluding by identifying no less than seven categories of market in their nevertheless small sample of SMEs (idem: pp. 28-36). If they are to be believed, there would be even more if a greater number of units were studied.

4.3.3 The hypothesis of SMEs as a 'transitional market'

Note also that while 22.6% of the young persons starting in VSEs in France are apprentices, no more than 3.4% are in large enterprises with more than 500 employees (Trouvé, 1996), which is also confirmed by the annual German panel surveys conducted by the IAB (*jährliche Betriebsbefragung des Instituts für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit*): small craft enterprises currently take on twice as many apprentices as large enterprises.

We should of course distinguish here the SMEs that take on the greatest number of young people according to the former's sector of activity and the level of qualification of the latter. We know, for example, that vast numbers of young unskilled building and construction workers join VSEs (54.8%) or enterprises with fewer than 50 employees (74.6%). Similarly, 48% of unskilled engineering workers start out in VSEs and 61% in Ses with less than 50 employees. On the other hand, unskilled handling workers tend to join firms with more than 50 employees (68%), especially medium-sized enterprises (employing 50-499), which themselves take on 46% of unskilled handling workers. Moreover, it is SMEs that take on the most new young sales staff (69.5%), especially VSEs (47.6%), while enterprises with more than 500 employees take only 17.4%. New young hotel workers are taken on by SEs (74%) and especially VSEs (44.7%).

However, if we add the not insignificant role of SMEs in re-employing jobseekers (Leicht points out, for example, that three-quarters of unemployed persons recruited in Germany in 1994 were taken on by enterprises with less than 50 employees – 1997: p. 50), and especially that much use is made of them in employment policy (Gubian, Holcblat, 1999), that would be enough to allow us to consider SMEs a real 'transitional market' (Schmid, 1998: p. 12; Schmid and Gazier, 1999) between training and employment (including the use of assistance schemes to get young people into work), between unemployment and employment (as we have just seen), between employment and withdrawal from working life (as we saw earlier), and between domestic work and employment (see the status of home helps in the configuration of one-person businesses). Such a hypothesis would, among other things, involve articulating analysis of SMEs' behaviour on the labour market with that of their role in individuals' career paths, not only when they first start work, but throughout their working lives.

Other French observations deserve to be mentioned and checked out for European comparison purposes. Among these one might single out that by Bruand (1991) based on Céreq career pattern surveys during the 1980s, according to which a significant proportion of young people starting out in the smallest enterprises (one third) move to a larger establishment in the first five years of their working lives. This would be in line with the DMMO and EMMO surveys already mentioned, which showed that the 'reasons for leaving' given by young persons under 25 included 18.5% 'resignations' in small enterprises compared with 8.5% in enterprises employing over 200 people, or with the comparison of first job stability rates arrived at by Céreq: 17% for VSEs and 47% for large enterprises. Which means that while SMEs play a considerable part in providing young people with their first jobs, the posts that they offer are far from being the most stable and therefore the most 'desirable' from their point of view. That is why many still regard them as 'staging posts', and the SMEs have a lot of difficulty in retaining staff. Other sources also confirm this kind of drift of young workers from small enterprises to medium-sized and large enterprises as they go through working life (Bruand, 1991).

600

Another finding could be stressed: despite their greater capacity to accommodate young persons with low skill levels, the pivotal role of SMEs and VSEs in particular in introducing young people to work has for some years now tended to extend to all young people, regardless of their initial level of training. Thus, Céreq's *Observatoire des Entrées dans la Vie Active* [Observatory of Entries into Working Life] showed that 30% of young people leaving higher education in 1992 were in 1994 working in enterprises with between 1 and 49 employees, and 13% in VSEs alone (Bentabet et al., 1999: pp. 45-46). Could this trend towards higher levels be connected with sectoral effects (development of high-value-added services), the shifting of Ses in the value chain, with, for example, the development of VSEs as part of large groups (franchising, retail chains, division into subsidiaries), the arrival of a new entrepreneurial class, or the greater loss of status of young graduates on the labour market? The work done by Dares and the Céreq's Generation 92 Survey should enable us to give a better answer to questions of this kind, but it is unfortunately not yet available.

4.3.4 The question of 'crossing thresholds'

The statistical data on the labour market and on the integration of young people into working life are not however enough to explain totally the recruitment practices observed in SMEs. If we are to understand them better, we must reintegrate them into a more general understanding of the methods of labour management in small structures. This is what we said in a recent publication (Bentabet et al., 1999) and it is supported by a number of Anglo-Saxon authors who consider the most important fields of human resources management in small enterprises still to be 'the selection and retention of staff' (Hornsby and Kuratko, 1990). That is why they are particularly interested in the required manpower characteristics, the sources used for recruitment, and the selection tools deployed by SMEs, most often comparing them with Les (Golhar, Deshpande, 1997), without for all that overlooking the 'motives', that is the representations underlying the behaviour of their managers.

A good example is given in a particularly thorough study by Atkinson and Meager (1994). Taking up an hypothesis formulated in their earlier work (Atkinson, Meager and Wilson), the two authors state that, in the course of their development, small enterprises have to cross four successive thresholds, each representing things that have to be taken into account in policies of assistance to SMEs, for example:

- *The 'entry threshold'*, which corresponds to the decision to take on an employee, especially for a self-employed person who crosses the threshold when he engages his first employee. Most of the time, he then uses casual workers, members of the family, or works long hours. This threshold is situated at zero employees.

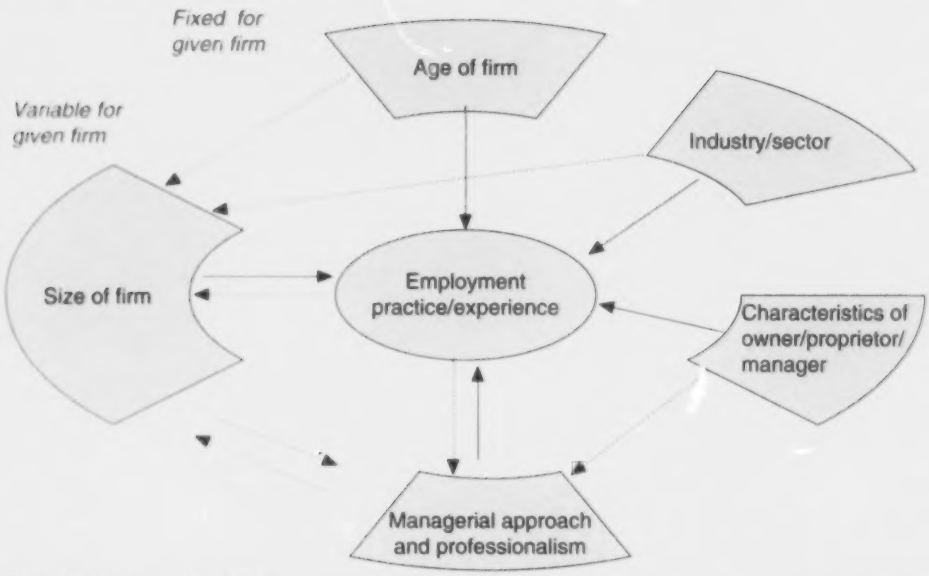
- *The 'delegation threshold'*, which represents the moment when the owner-manager (the 'one man band') is no longer self-sufficient and leaves production or direct sales, for example, to concern himself with management. This threshold does not lie at a particular level of workforce, but at the time when the small firm's quantitative growth is accompanied by a qualitative change in its method of organisation.

- *The 'formalisation threshold'*, which is the point where the organisation's complexity demands systematisation, both in order to organise the internal labour market and to have recourse to the external market. It is, for example, the moment when planned recruitment procedures appear.

- Finally, *the 'functional threshold'*, where the activity's development demands a personnel policy based on professionals and specialists and the emergence of specialist functions. In particular, we see the appearance of formal and ongoing relations with the labour market.

According to the two authors, while the SME's workforce is the 'inescapable' variable of its specific 'labour market behaviour', it is not the only one. That is why they propose an empirical analysis grid including four other key factors (Figure 4.2).

Figure 4.2: Characteristics of firm



Source: Atkinson and Meager, 1994: p. 35

The influence of the foregoing five variables on the behaviour of small firms is also affected by many factors reflecting the characteristics of the environment in which the enterprise moves, according to the following scheme, which is self-explanatory:

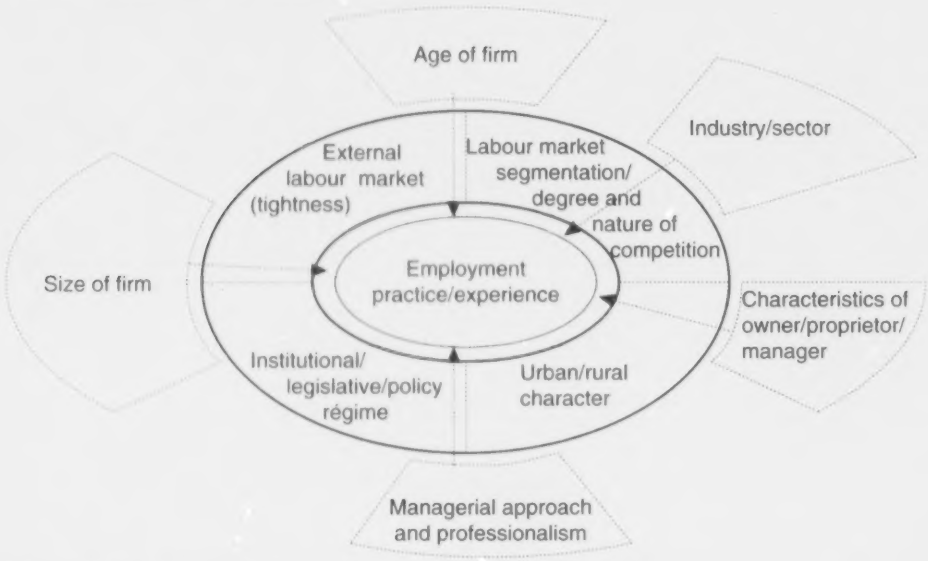
The two authors state that, contrary to what is generally believed and unlike the financial problems that remain predominant regardless of their size, the recruitment problems encountered by small firms increase regularly with their size. Thus, Very Small Enterprises have fewer difficulties on this point (since they can take on family members or relations) than firms with 10 to 50 employees, for which recruitment is the second cause of problems with the environment.

As for the players who take the recruitment decision and the procedures they follow, they are closely dependent on the 'managerial structure and practices' current in SMEs. In a survey covering 2 836 units, the intervention of the one owner-manager, who is always the majority shareholder, can nevertheless increase from 50% to 83%, depending on the size of the enterprise, its location (rural/urban) or sector. However, the demand for labour is generally quite far removed from the conventional deterministic models derived from large organisations: apart from the powerful inertia of small structures to preserve their autonomy, we note in particular the lack of planning, the predominance of short-term influences over employment decisions and the use of more informal local selection procedures in the smallest SMEs or for the least skilled manpower needs. Thus, for manual workers access to the workforce 'by word of mouth' is still going strong in large enterprises (Atkinson and Meager, 1994: p. 70) and the area of the labour market explored depends closely on the occupation of the persons recruited: whereas managers tend to be recruited from a distance[70], three-quarters of

[70] *Small rapidly growing firms* are more willing to recruit managers from outside with experience of large enterprises; '*typical small firms*' tend to recruit internally, but when they do have recourse to the external market, they tend to recruit people who have worked or are working in small firms; finally, *small slowly growing enterprises* tend to recruit managers from within their sector because they are less likely 'to rock the boat'! On this point see also Ardenti and Vrain (1999).

602 BEST COPY AVAILABLE

Figure 4.3: Environmental characteristics



Source: Atkinson and Meager, 1994: p. 37

manual workers are contacted within a radius of 5 miles.

4.3.5 Extending the analysis to forms of labour management

More widely, we could look at work analysing the specific forms of labour management in SMEs[71] and including the employment (and training) practices found in them. Some authors have made this their speciality, such as Mahé de Boislandelle in France (1998 a and b), McEvoy in the United States (1984) or Pettigrew, Arthur and Hendry (1990) and again Hendry, Jones, Arthur and Pettigrew (1991) in Great Britain. In what is in the end quite a small stock of publications (at least in the opinion of Julien, 1997: p. 260), we might, with Mahé de Boislandelle (1998 b), pick out two other directions: firstly, the empirical analyses of the practices and representations of 'human resources management' (hereinafter HRM) in SMEs; and secondly, the attempts to formalise and construct theoretical concepts and frames of reference. Let us briefly look at these two groups.

Empirical studies: results tending to contradict the specificity theory

Most conventional research into HRM practices in small enterprises is essentially *evolutionist*, since most of the time it makes them into a smaller and incomplete model of the large enterprise. The conclusion then drawn is that there is some backwardness in their functional structure (only very rarely do they have a dedicated 'personnel management' section), inadequate planning and a failure to integrate human resources into the enterprise's strategy. A number of older authors have attributed the inefficiency or even the failure of certain SMEs to these failings (McEvoy, 1984).

Closer to our own position, on the other hand, some authors have argued for the *specificity theory* and have shown that there was far from being a consensus on the link between the

[71] We prefer to use this term here rather than 'Human Resources Management' (HRM) used by many authors, since the latter seems to have more overtones of the rational technologies of the large enterprise.

degree of formalisation, professionalisation or differentiation of HRM and the success of SMEs (Julien, 1997)[72], since the labour characteristics and needs of small enterprises are very different from those of the large enterprises (Deshpande and Golhar, 1994). And while some researchers (e.g. Hornsby and Kuratko, 1990) have sometimes highlighted a recent coming together of personnel practices between the two types of enterprise, SMEs are likely to owe this less to their internal progression than to their increasing integration into groups, the emergence of new managers (Ardenti and Vrain, 1999) or the spread of new forms of organisation like just-in-time and Total Quality Management (Deshpande and Golhar, 1994).

The theoretical models: convergence towards a contingency model

The theoretical models are geared towards approaches of the quota type, which in the end are the only ones able to take account of the extreme diversity of forms of labour management and their present dynamics in SMEs (Fabi, Garand et al., 1994). An almost impossible multitude of factors (internal and external) are involved in their organisation, activities and HRM practices, and Julien attempts a fairly exhaustive compilation of them from the literature (1997: pp. 293-299). He mentions: organisational size; field of activity; the enterprise's financial and material resources; organisational strategies, the sociodemographic profile of the entrepreneur, the managers and the employees; the entrepreneurial vision; the presence of trade unions and the SME's production system (idem: p. 300).

More or less the same idea is developed by Mahé de Boislandelle in France; he includes in his 'social mix' model (1998-a: pp. 113-114) *personal variables* concerning the manager, *contextual variables* (internal) of the organisation and *environmental variables* determining 'the SME's HRM system' and which are all pointers for future empirical research (idem: p. 72).

According to all these authors, like Julien and Marchesnay (1988: pp. 70 et seq.) who already distinguished between entrepreneurs whom they designated by the letters P.I.G. (perenniality, independence, growth) or G.A.P. (growth, autonomy, perenniality), the managers' vision and their system of representation play a particularly determining role in the nature, complexity, diversity and degree of formalisation of HRM (Garand, 1993, and Figure 4.4). Moreover, the *degree of formalisation* of HRM practices seems to be a key indicator of SME development. On this point, we should not, of course, overlook *'imported practices'* (resulting, for example, from the use of outside consultants or the subcontracting of certain HRM activities such as payroll management, employer training, the use of payroll software or training management) or *'induced practices'* for the purpose of contractual cooperation with other SMEs, such as franchising, relations with prime contractors, or ISO 9000 certification. These are very important dynamics capable of transforming HRM practices radically (on this point see Ardenti and Vrain, 1998). This is what makes Bentabet et al. (1999) say that all the conditions are now present for the emergence, even in a VSE context, of a managerial model of rationalised or 'modernised' human resources management.

Like these last authors, Hendry et al. (1991) consider it essential to locate the practices of HR development in SMEs in relation to their market and competitiveness strategies. They stress the importance of these strategies and of the process of organisational development, that is the life cycle and age of the enterprises,

[72] If Aragón Sánchez and Sánchez Marín (1998) are to be believed, nothing can be taken completely for granted about the relationship between methods of HRM and competitiveness, either. In an empirical study of 602 industrial SMEs in the Murcia region, they ask whether the SMEs that are the most competitive according to the resources and skills theory (technological capital, reputation, quality, size, internationalisation) have HRM practices that are significantly different from the less competitive enterprises. While some findings confirm what was expected (the most competitive SMEs are the ones that give the most training and have put in place a system of staff appraisal), others appear more paradoxical: for example, the most competitive enterprises are the ones with the highest proportion of jobs on fixed-term contracts, they do not particularly value independent working or job security, etc. This deserves to be examined in greater depth.

Figure 4.4: Manager profiling axes

Action	Operation	<----->	Development
Involvement	Low personal risk	<----->	High personal risk
Methodology	Logical analysis	<----->	Intuitive approach
Representations	Immediate tools	<----->	Long-term vision
Values	Collective ideology	<----->	Individual ideology
Relations	A priori trust	<----->	A priori distrust
Ownership	Willingness to share	<----->	Refusal to share
Continuity	Short-term gain	<----->	Quest for perenniality

The arrows (<----->) indicate that the position on each axis lies on a continuum stretching from one extreme to the other.
Source: Mahé de Boislandelle, 1998: p. 20.

for understanding their skill needs. That is without a doubt an extremely fruitful avenue of research for the future if we are to gain a better understanding of the articulations between strategic behaviour, performance and methods of human resources management in SMEs.

4.4 The current outbreak of work on job quality

So far, we have looked at the contribution that SMEs make to employment only from a quantitative point of view and it must be said that most research in Europe and elsewhere has given particular precedence to this point of view. However, we have for some years now been witnessing the opening of new areas of investigation into *the quality of jobs and of working conditions* that are radically changing the reading of the specific contributions made by SMEs to employment. These have grown particularly in Germany, the United States, Canada and the United Kingdom, as well as in Spain, where, as we have already seen, the most 'weighty' statistical studies (concerning the economic and financial performance of SMEs in particular) seldom overlook the data on the structure of their jobs and the skills of their workforce.

4.4.1 Comparison between small and large enterprises

We have to begin with a first set of works that try to compare the quality of jobs in small and large enterprises and that most frequently show the former at a disadvantage. Their wages are generally lower, their use of continuing training less frequent, their level of unionisation and therefore of employee protection lower, the security of the jobs they offer less evident. This was found in the United States by Brown, Hamilton and Medoff (1990), for whom 'workers in large firms have a superior employment package'.

In the case of Great Britain, Scott et al. (1989) stressed the effects of enterprise size on wage differences, and Curran and Stanworth (1981) argued with many others that job satisfaction, often presented as compensating for the lower level of wages in SMEs, in fact depends more on the sector of activity, and the age or qualifications of the workers than on the size of the enterprises. Rainnie (1989) concluded in the matter of labour relations that 'small isn't beautiful'.

In Spain, Camisón Zornoza (1996-b) has underlined the higher percentage of temporary workers (*'eventuales'*) in SMEs, and the Impi for its part regularly notes a greater number of hours worked, lower wages and an overall lower skill level than in LEs (1995: p. 63). Another salient feature of SMEs that contributes directly to making employment contracts less stable is the lower seniority of the workforce. In 1995, 59.7% of workers had been there for less than 2 years and only 10.7% longer than 8 years (Para et al., 1995: pp. 29 and 64). This would seem to confirm the existence of a hard core and a periphery for jobs and labour within SMEs.

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In Germany, with the exception of the work by Scheuch (1976), a great scientific defender of SMEs who, basing himself on *Bundesministerium für Arbeit* [Federal Ministry of Employment] surveys (1973), claimed that out of a set of 11 variables, only wages and working hours were more favourable in LEs than in SMEs, most research confirms the same findings. For example, the research by Wagner (1997) shows the 'effects of size' on wages, other benefits (end-of-year bonus, 13th month, profit-sharing), job security, opportunities to improve qualifications/skills, continuing training, participation, etc. Considering that most enterprises in Germany are SMEs employing a large proportion of the workforce while remaining outside the conventional joint management system, she recommends the adoption of a minimum wage and administrative barriers to dismissal rather than directly gearing public policies to improving the quality of jobs in SMEs.

4.4.2 The hypothesis of a link between job creation and job quality: 'do more jobs mean worse jobs?'

Today, studies are tending to converge towards the idea that working conditions in SEs and large enterprises cannot be compared and that the accent should be placed on the relationship between the growth of employment in SMEs and the process of deregulating the labour markets and making them more flexible in the developed countries. This theory is supported in particular by Sengenberger (1988) and by Baldwin (1998).

Sengenberger asks whether the trend for jobs to move towards SMEs is not closely linked to the reduction in the quality of working conditions and jobs and in wages. He notes that the abolition of protection against dismissal ('*kollektiver Kündigungsschutz*') for SE employees since 1985 is likely to have perverse effects: it will now be more difficult for SMEs to find skilled staff. Another possible counterproductive effect of Government policies is that the strategy of reducing wage costs may result in lower productivity in SMEs and encourage LEs to use them as 'cost absorbers'. This is because deregulation is built on short-term market efficiency, but neglects longer-term productive efficiency. Overall, the author does not find the policies of encouraging SMEs by making the labour market more flexible very convincing. On the other hand, a renewed efficiency in SMEs could come from improving their manpower skills and from strategies of inter-enterprise cooperation as in the example of 'third Italy'.

Baldwin, for his part, uses a study of the manufacturing sector in Canada between 1973 and 1992 to maintain that if SMEs have absorbed most jobs in recent years, it is because the changes that have taken place in relative factor costs are more favourable to them and because they traditionally use the labour factor more than the capital factor (1998: p. 363). He then formulates the strong hypothesis that 'to some extent, growth in the small plant segment has probably been the result of wage flexibility in this sector' (idem: p. 363). In other words, if SMEs make such a big contribution to job creation, it is because the jobs they create are of poorer quality than in large enterprises. From the research point of view, this means that we need to articulate the quantity and quality of jobs in SMEs conceptually and empirically and to pay greater attention to industrial relations in SMEs than European work has done hitherto.

In France, authors like Grasser, Lhotel and Sacher (1999) have come close to this hypothesis. In fact, according to these authors, a parallel should be drawn between SMEs' current success and the changes on the labour market and the increasing fragility of the wage relationship, which is more widespread in SMEs than in large enterprises, where there is still a strong internal market.

In reality, the somewhat hasty nature of these hypotheses (or rather of the interpretations we give them) overlooks a whole series of questions surrounding the methodological difficulty of precisely defining the concept of *job quality*, and international comparisons could be very useful for making them operational. It is these two elements that a study by Cowling and Storey (1998) attempts to tackle on behalf of the Dublin

Foundation[73]. According to these authors, *job quality* cannot in fact be grasped one-dimensionally. It is in fact a composite concept, constructed empirically from a number of indicators, some of which reveal the deficiencies and others the superiority of SMEs. The question is not therefore a simple one and it no doubt calls for further investigation. They also note that international comparisons (European ones especially) are at present more of a research programme for the future than a present-day reality.

4.4.3 The work of the Dublin Foundation

It was in 1998 that the Dublin Foundation embarked on a programme of research into 'job quality' in SMEs. In this connection, it has already held two workshops (17-18 September 1998 and 22-23 April 1999) with the aim of reviewing European research in the field.

The subjects of the workshops were 'Employment conditions in EU micro-firms' and 'Jobs in EU micro-firms: a trade-off between quantity and quality?'. Still very much articulated around the debate about job creation in small enterprises, these sessions sought to define the research priorities and the instruments for collecting data (key variables) on employment conditions in SEs. Among the workshop's conclusions and recommendations, we can note:

- the urgent need for particular examination of the micro-enterprises segment of SMEs, since these account for 1/3 of jobs and 93% of establishments in the EU (including firms with no employees);
- that decision-makers often put the emphasis on pay and the length of contracts, although these two variables are not among the priorities expressed by either employees or employers;
- that in micro-firms, the employer is also a 'worker' or one of the workers. His own working and employment conditions therefore probably have an effect on the success of his business and on how he sees his employees' working conditions;
- that information on total employment and especially on net job creation is very hard to obtain because of the high staff turnover in micro-enterprises;
- that international comparisons are even more difficult because there is no harmonisation of the indicators and concepts used in the socioeconomic approach to labour and employment problems;
- that the nature (or absence) of contracts in micro-enterprises (whether or not family firms) requires specific approach methodologies for studying employment conditions. Researchers will therefore have to make a clearer link between quantitative and qualitative methods and use their imagination to identify new indicators and go beyond the limits of the databases hitherto available;
- that multidisciplinary approaches are also essential.

4.4.4 The Cowling and Storey report (1998): from the elaboration of indicators to the difficulties of international comparison

In their report to the Dublin Foundation, Cowling and Storey note first of all that there is at present no database capable of providing full comparative information on all the job quality variables in the 15 European countries that they analysed. The Foundation for its part tried to create a European corpus in 1996, but this does not contain any information on the wages and remuneration variable, which is probably one of the most important.

Choosing to confine their exploratory analysis to the case of Portugal, using the database compiled by the Dublin Foundation, they look in turn at the registers of the macroeconomy and labour market dynamics, the demography and composition of the workforce in the market sector (by sex, age, sector of

[73] European Foundation for the Improvement of Living and Working Conditions (Dublin).

activity, degrees of job stability, wages and methods of remuneration, quantities of hours worked, the relationship between training and employment, training levels, working conditions, job satisfaction, etc.), and the study of 20 job quality indicators (dependent variables) by size of enterprise.

It emerges very clearly from this study focused on one country that while SEs are at a disadvantage compared with large ones in four job quality variables, they are capable of doing better than them in four other variables. For the remainder of the 20 other variables used, however, there seems to be no significant difference between large enterprises and SMEs. It is, however, sometimes necessary to make a clear distinction between enterprises with no employees ('self-employed'), micro-enterprises (1 to 9 employees) and small firms (10 to 49 employees). Likewise, other independent variables may play a not insignificant role alongside that of size: for example, the sector of activity, the job characteristics, the personal characteristics of the employees (sex, age, level of training) and their occupational category.

In the final part of their report, Cowling and Storey nevertheless review the principal dimensions or factors that should be taken into account when measuring job quality:

- wages and other benefits: 'no doubt the most indisputable factor in measuring job quality' according to the authors;
- the ability to acquire training;
- pay structure (the measurement of performance and productivity has an effect on the variability of the compensation of employees);
- type of contract (fixed-term contracts increase employee uncertainty);
- working hours;
- job security and permanence;
- working conditions (health, safety, autonomy, involvement in decision-making, subjective well-being).

After proposing a conceptual analysis framework for examining the relations between job creation and job quality in detail (pp. 69-73), they suggest focusing on SMEs, calling for future studies of all sectors of activity (not just industry), using the series of 20 variables identified in their own work and drawing on the Dublin European Foundation's databases, the gaps in which could be plugged by national monographs, especially for the study of wages.

4.5 The galaxy of self-employment: alternative to unemployment or optical illusion?

Our approach to SME behaviour on the labour market would not be complete without giving special place to 'self-employment'. The interest shown in this phenomenon by both labour market policies and academic research is the result of its considerable growth over the last 20 years in many developed economies (OECD, 1998-a). Today, especially, it is considered an important source of new jobs and an alternative to paid employment. Self-employment is also seen as a possible solution both for new entrants to the labour market and for the jobless. Finally, we find that in a number of countries (France, UK, Spain) self-employment has been encouraged by policies of providing financial support and advice aimed particularly at the unemployed or persons at risk of losing their jobs.

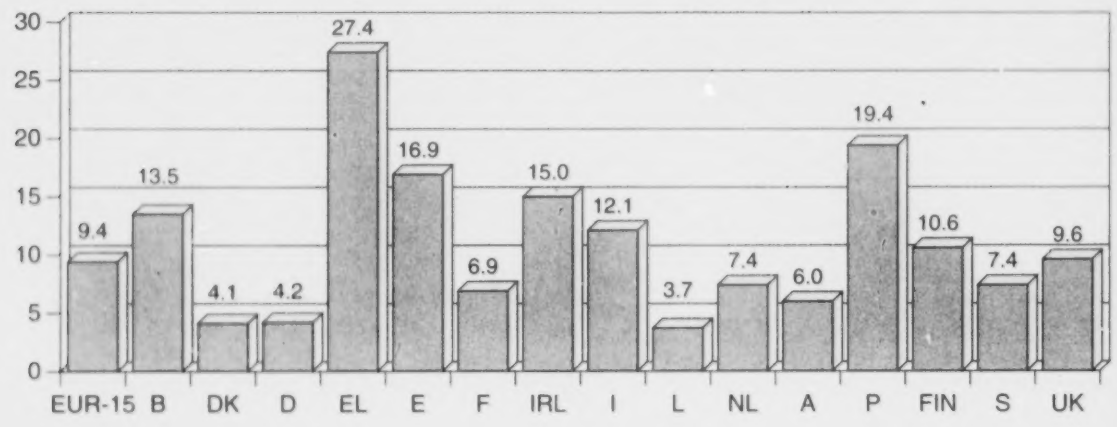
4.5.1 The contribution of international comparisons

The self-employed are generally considered to make up about 9.5% of the workforce in Europe today (that is, the number of self-employed relative to the total number of persons with a job), but with the figure differing greatly from one country to another. Thus, although the various sources do not come up with the same figures[74], we can distinguish between Northern Europe, where the percentage of self-employed is relatively small (Denmark, Germany, France, Netherlands, etc.) and Southern Europe (with Spain, Italy, Portugal, etc.) where it often exceeds 15%, reaching as high as 30% in Greece (see Figure 4.5). However, it must be said that the criteria for

[74] The differences may in fact result either from the different definitions adopted by the various sources used, or quite simply from the difficulty of marking out the reality of self-employment statistically.

608

Figure 4.5: Self-employed with no employees as a percentage of all persons with a job, 1995



Source: EUROSTAT, Labour Force Survey

defining self-employment differ from one country to another.

The proportion of self-employed was calculated by dividing the number of self-employed by the total number of persons with a job.

This distribution is held to reflect the enterprise size structure, and the high level of self-employment in the southern countries would be explained by the high proportion of both VSEs and agricultural activities in their economies. Moreover, the breakdown of self-employed by sector is not the same in the South and North of Europe. In the former case (Italy, Spain, Portugal), commerce, hotels and catering predominate to the extent of representing as much as 50% of the self-employed, compared with no more than one third in France and the Netherlands, one quarter in Great Britain and the United States and only one fifth in Germany (Luber, Gangl and Leicht, 1997: p. 4, Table 1).

4.5.2 Structural trends in self-employment

It is nevertheless true that in most countries the internal structure of self-employment is changing. For example, Germany has for several years now been witnessing a relative growth in 'modern services', knowledge services, and liberal professions (Luber, Gangl and Leicht, 1997). This internal structural trend is also noted by Granato and Leicht (1996), who stress the growth of human capital in self-employment. They say in fact that while the proportion of employees having completed university education rose from 7% to 13% of the working population between 1970 and 1993, it rose from 12% to 21% among the self-employed. They also point out that the presence of the self-employed in services (especially business services) rose from 8% to 16% between 1970 and 1993, that it remained constant in the manufacturing sector (from 24.7% to 24.1%), and that the number of female self-employed has increased, as has that of self-employed persons of foreign origin (from 2% to 7%)[75].

In England, the growth in self-employment has often been seen in parallel with the drift

[75] Bogenhold and Schmidt draw particular attention to the creation of businesses by foreigners on German territory: around 245 000 self-employed today offer nearly 800 000 jobs (1998). For their part, Jones, McEvoy and Barrett show that self-employment varies considerably according to ethnic group. Whereas 13% of whites could be considered self-employed in the period 1989 to 1991, the figure was 7.2% for the Guyanan working population with a job and 20% for Pakistanis and Indians.

from industry to service activities, technological progress, the break-up of large enterprises, and Government efforts to promote an enterprise culture. Between 1981 and 1991, there was also faster growth (in the region of over 80%) in the number of self-employed among the youngest population groups (aged 16 to 24) than in any other age group (Campbell and Daly, 1991).

4.5.3 Forced self-employment and 'entrepreneurial culture'

Most research also points out that the rate of self-employment has increased in the majority of OECD countries (with the exception of Japan, Luxembourg and Denmark), especially since the mid-1970s (OECD, 1992). This is more especially the case in Great Britain, Spain and Sweden, but also in Germany. Could this be the sign of the emergence of a new 'entrepreneurial spirit' bearing with it the hope of many new jobs? Not necessarily, because a high number of self-employed does not necessarily imply a greater taste for risk, or greater creativity or commitment. It could just as much be the result of the state of the labour market, processes of 'downsizing' in large enterprises and rising unemployment, all of which have magnified the phenomenon of 'forced self-employment' over recent years (Granato and Leicht, 1996). Not necessarily, either, since a person going self-employed is not necessarily accompanied by the creation of a lot of extra jobs. From this point of view, Germany and Denmark are still a case apart, since in those countries half the self-employed have been able to create other jobs, compared with only a third or even a quarter in the other Western countries. In Great Britain, there has actually been a very sharp decline in the proportion of self-employed employing other wage earners, since between 1981 and 1991 the proportion of self-employed with employees fell from 40% to 31% (Campbell and Daly, 1991).

Hence the interest of work looking at the many transitions between paid work, unemployment and self-employment. One example is Carrasco for Spain (1997). Taking as his source the *Encuesta Continua de Presupuestos Familiares* (Instituto Nacional de Estadística), he compares 37 000 observations of a population of men aged 21 to 65 between 1985 and 1991 and tries to see what are the factors influencing the decision to become self-employed. Is it possible to estimate the effect of unemployment on the probability of embarking on self-employment for the long term? Is it possible to distinguish between self-employment with and without employees? What reasons can be found for moving from self-employment to paid employment or from self-employment to unemployment? Two sets of interacting variables then emerge from his study: the state of the labour market (and especially job rationing) and the personal characteristics of the individuals (family situation, age, level of training, previous experience of self-employment and former status, i.e. employee or unemployed). Like Evans and Leighton (1989), he finds that an unfavourable macroeconomic situation increases the probability that low-skilled waged individuals will become self-employed. He also finds that the enterprises created by the unemployed encounter more difficulties (high percentage of failures) than those created by persons coming from a job.

Finally, and this is no doubt a crucial result, Carrasco shows that when individuals have recently experienced unemployment, if they are driven to become self-employed, especially by the withdrawal of benefits, they are more likely to abandon self-employment after a few months to return to unemployment than are self-employed persons who were previously wage earners (Carrasco, 1997: p. 29). This seems to imply that employment policies designed to encourage self-employment among the unemployed would do well to think twice before simplifying extremely complex questions.

This problem is also addressed in much recent German literature opening a very closely argued debate, both theoretical and empirical, on the culture of self-employment (*'Kultur der Selbständigkeit'*), which might be translated and extended to mean 'entrepreneurial culture' (Bögenhold and Schmidt, 1999). It shows that independence cannot be reduced to its legal or statistical aspects and that 'the enterprise spirit' also has a cultural dimen-

sion that ought to be worked on in the context of general vocational or university training, especially by involving intermediate institutions at regional level. In this connection, Frick (1998: p. 36) considers the British culture of entrepreneurship to be inappropriate for Germany because of its ideological content and the predominance it gives to the fight for capital at the expense of dependent jobs. In other cultural contexts, the spread of the enterprise spirit would have to be a long-term social project rather than a set of defensive measures seeking only to curb unemployment.

4.5.4 Increasingly fluid boundaries between employees and the self-employed

In France, the recent work of O. Marchand (1998) also tends towards caution and tempers the enthusiasm surrounding the growth in self-employment[76]. The author begins by establishing that, with the exception of the United Kingdom and Sweden, employees have never been such a high proportion of the working population, approaching as much as 90% in the main industrialised countries (idem: p. 8, table 2). However much we may debate the methods of constructing the statistics, he observes in particular that the place currently held by self-employment is part of the qualitative changes affecting the structure of paid employment in the long term. From this point of view, what we are witnessing today is a blurring of the traditional split between the status of paid work and self-employment, especially with the externalisation of activities on the periphery of enterprises, subcontracting and hiving off: 'work on the margins of the paid workforce is growing, either in the form of jobs with the weakest of links with employee status... or in the form of bogus self-employment or bogus subcontracting. In the building industry, for example, firms have been very successful in encouraging certain workers to set up on their own, which may enable them to save on wage overheads by getting around the regulations; but these new self-employed workers are in most cases completely tied to their former employer who is their only source of work' (Marchand, 1998: p. 9). On the other hand, 'some paid activities may consist of the provision of services where, conversely, certain tasks can be externalised to persons not on the payroll, while nevertheless maintaining ties of subordination between the two parties'. In other words, at the same time as the wage link is being loosened, we are seeing the appearance of new forms of dependence based on commercial contracts. Is this not the case, for example, of integrated or franchised small businesses whose wage 'independence' is paid for by economic dependence (Bentabet et al., 1999)?

5. The role of SMEs in training and in generating professional skills and status

National and European literature on initial and continuing vocational training is particularly prolific. This third section will be concerned less with mobilising this immense source than with focusing more particularly on work highlighting the relationship SMEs maintain with vocational training, either as users or as a specific forum for generating manpower skills. Special attention will be paid to examining the quantitative defining data that have recently been trying to make international comparisons, to the main factors determining SME training practices and, finally, to the main changes taking place in most European countries to make vocational training the foremost source of SME competitiveness.

We have just looked at the research into SMEs' contribution to employment and human capital formation, which is a crucial factor in competitiveness for the developed countries (Ridinger, 1997). However, we now know that the quantity of manpower alone is not the only important factor in determining the process of growth and competitiveness in an economy, but the skill level of its workers. From this point of view, as Kucera (1997: 57) notes, entrepreneurship and skilled labour

[76] The self-employed are initially defined negatively here as 'those who do not draw a wage or who pay it to themselves'.

('*Qualifiziertheit der Arbeit*') go together. That is why it has become necessary to examine the role of SMEs, not only in job creation but also in the mobilisation and development of labour qualities.

The question is not new. As early as in 1986, a seminar organised by Cedefop and coordinated by I. Drexel sought to take stock of training in SMEs, and in many respects, this constitutes an excellent point of reference. The question has undoubtedly become more complex, however, given the pressing nature of the underlying issues (see the European Commission's *White Paper*: *Enseigner et apprendre – vers la société cognitive* [Teaching and learning: towards a cognitive society]) and the many national initiatives to which this has given rise in most EU countries over recent years (Aventur and Möbus, 1999).

The field of scientific research is not exempt from this complexity. First, as A. D'Iribarne (1993) points out, there are many areas of knowledge. They may, for example, be concerned with 'initial training for young people, continuing training for people of working age, whether or not in work, work itself, which allows us to relate questions of 'qualifications' and skills to those of training, staff selection by enterprises and the place of the diploma, training techniques and the cognitive processes of apprenticeship [..] and how all the above should be seen in the light of the general operation of the labour market (occupational integration, exclusion from activity, etc.).'

Moreover, when the researcher takes a transnational interest in all these phenomena, he comes up against familiar but particularly stubborn difficulties: how, for example, to achieve sufficiently reliable comparability between analytical categories that are highly marked by national contexts. What is there in common, for example, between the concept of apprenticeship in Germany and that in France? What relationship is there between a skilled worker in Italy, France or Germany when the basis of training, methods of selection, or their place in labour organisation and in career prospects or social status are not the same? How should we respond to the present instability of our main points of reference resulting from the reconfiguration of the institutional edifices of vocational training in most European countries? While it is true that statistical sources like the *Labour Force Survey* or the *Community survey of continuing vocational training in enterprises (CVTS)* have enabled tremendous progress to be made, they are still recent and in need of further development. At least, that is what emerges from the publications that deal with them.

We propose here to begin by using this corpus to distinguish between SME behaviour in the matter of initial vocational training (5.1) and then of CVT (5.2). In fact, despite the present 'easing of the separation between initial training and continuing training' noted by Aventur, Campo and Möbus (1999: 2)[77], the distinction between these two registers, 'which *together* help to produce the qualifications and skills of the working population', is maintained in most of the work consulted.

Then, building on a critique of the statistical tools, we shall investigate the specifics of SME training practices (5.3). Finally, by looking at the biggest trends at work in the new forms of regulating vocational training systems in most EU countries, we shall try to interpret them as opportunities to be grasped to enable SMEs to develop their training potential in the future (5.4).

The first two sections will describe the most striking studies on the demand for vocational

[77] It will in fact be noted that this tendency to overlapping of the initial and continuing vocational training systems is shared almost unanimously in all the countries of the EU. For example, alternating training arrangements (sandwich courses) have been available to adults in Denmark ('recurrent training') since 1992; in other countries, like Finland and the Netherlands, training systems including apprenticeship are accessible to adults. Similarly, in the new *Länder* of Germany, 'conventional' apprenticeship has been extended to young adults over the age of 27. In France, combined work and training contracts are financed by the Continuing Vocational Training funds, while new forms of skill validation are available both to young people and to adults in the course of their working lives (Aventur and Möbus, 1999).

training by SMEs and the use they make of it, either on the basis of their skill needs in their recruitment practices (especially relating to young people) or in terms of initiatives for the development of their existing workforce. The resulting table shows a wide variation.

It is true that in most EU countries small structures play a key role in getting young people into work and are very much involved in apprenticeship schemes. However, they are finding it increasingly difficult both to absorb and retain the most highly qualified of them and to complete their initial training. Moreover, in the southern countries in particular there is a gap between the specific skills they demand and the qualifications produced by the vocational or technical training structures (as in France, Spain and Italy, for example). Their use of Continuing Vocational Training, if not always characterised by an 'inertia' that leads Verdier (1991: p. 42) to describe them as 'extras' rather than 'players', at least shows a kind of deficit or withdrawal as compared to the largest enterprises when observed at European level. Behind this overall analysis, however, most research work encourages us to measure national, sectoral or size category differences very carefully, paying particular attention to the factors explaining the (small) use made of training by SMEs.

As we said earlier, from a statistical point of view comparative European research into vocational training has made some important breakthroughs in recent years. One might mention, for example, the Report by the European Commission (DG XXII), Eurostat and Cedefop (1997) concerned both with initial vocational training from an analysis of 167 programmes in 15 Member States (VET-Eurostat) and the survey of continuing vocational training within the firm, which collected information from a representative sample of 50 000 enterprises (CVTS – Eurostat). See also the supplementary dossiers of the European Commission (1999) or the University of Sheffield's Centre for Training Policy Studies (European Commission, 1999) and the study produced by Céreq (Aventur and Möbus, 1999), which is exemplary in its depth and exhaustiveness. It is however much to be regretted that these databases, which tell us about both the structure of the initial training system in each country and enterprises' in-house training practices, cover only enterprises with 10 or more employees and at present disregard training for jobseekers. The result is that Very Small Enterprises (VSEs), which account for the greatest number of establishments in Europe, are once again excluded from the official statistics for technical reasons.

5.1 SMEs and initial training: providing a job and/or training?

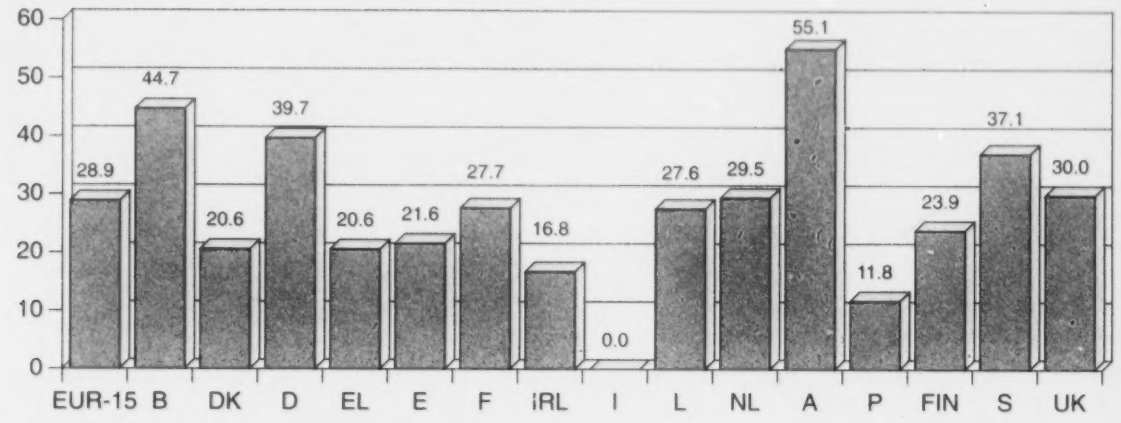
Political and economic decision-makers have for many years striven to make vocational training a major axis of the fight against unemployment among young people and to upgrade the average skills that service and craft SMEs more particularly need. If the statistical data produced on the subject at European level are to be believed, this kind of training seems in fact to be a form of protection against the difficulties of occupational integration.

5.1.1 The general effectiveness of vocational training on the labour market

In the countries of the EU, almost one third (29%) of young Europeans between the ages of 15 and 19 are today enrolled on an initial vocational training programme. This encouraging figure, however, masks major disparities between countries, since participation is very high in Austria (55%) and Belgium (45%) but less so in Ireland (17%) and Portugal (12%), the situation of young persons in the other Member States being between 20% and 40% (Figure 5.1).

Like the proportion of young persons involved in initial vocational training, the combination of general and vocational training varies enormously from one country to another. While in some countries vocational education predominates over general education (as in Germany or Austria, where 78% of pupils are engaged in vocational education at ISCED 3 level, in Italy with 73% and the Netherlands with 70%), in others it tends to be general training that prevails over vocational with the lat-

Figure 5.1: Rate of participation in initial vocational training among the population aged 15-19 years. 1993/1994, %



Source: European Commission, Eurostat, Cedefop (1997)

Box 5.1: The International Standard Classification of Education (ISCED)[78]

Isced 0 (Pre-primary)
Isced 1 (Primary): begins between 4 and 7 years, is always compulsory and normally lasts 5 or 6 years;
Isced 2 (Lower secondary): forms part of compulsory schooling in all EU countries. The end of this level often corresponds to the end of full-time compulsory schooling;
Isced 3 (Higher secondary): begins around the age of 14 or 15 and is either a general, a vocational or a technical education. Level required for access to higher education or end of schooling;
Isced 5, 6, 7 (Higher education):
- **without university degree (5)**
- **first university degree (6)**
- **programmes leading to a post-graduate qualification (7)**

ter engaging for example no more than 41% of young persons at ISCED 3 level in Spain, 33% in Greece and 23% in Ireland and Portugal. Between these two extremes we find France (with 53%), Denmark and Finland (with 54%) and the United Kingdom with 58%.

In the same publication (European Commission, Eurostat, Cedefop, 1997), we also find that, for an equal level of initial training, vocational training is more effective on the labour market than general training alone[79]. In Europe, in fact, while 23.5% of young persons are unemployed after undergoing only general training corresponding to ISCED 0, 1 and 2, only 11.5% (one half the number) of those who also have some vocational training are jobseekers (Figure 5.2). Vocational training therefore seems to speed up integration into working life, especially for young people with

[78] This nomenclature used in international comparisons at present has a few imperfections and is to be revised in the near future (European Commission et al., 1997).

[79] With the exception of Sweden, however, where vocational training is institutionally independent of the production system. In this case, the school system alone is responsible for getting young people into the right jobs.

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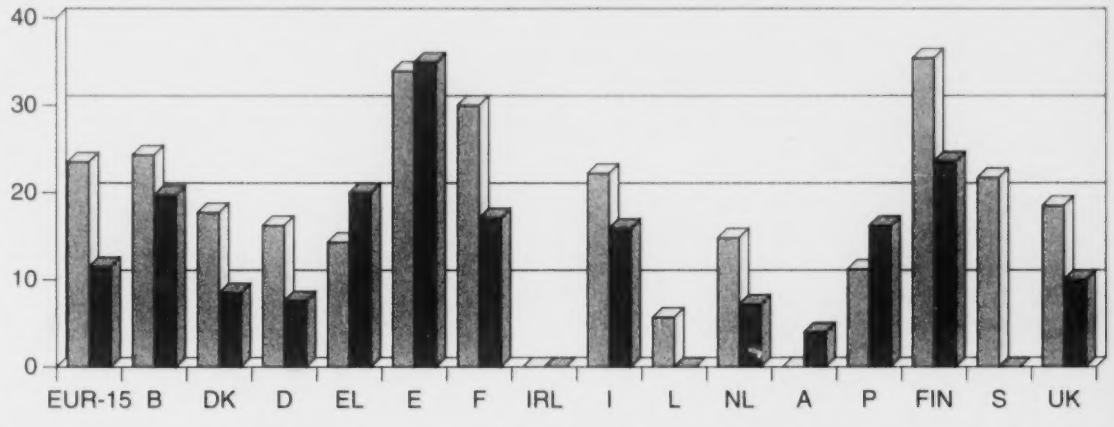
Figure 5.1: Rate of unemployment among young persons aged 20-29 having only a basic education and among those with further vocational education – 1995 – %



	EUR-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
ISCED 0,1,2 General	23,5	24,3	17,7	16,2	14,3	33,9	30	0	22,2	5,7	14,8	0	11,2	35,4	21,7	18,5
ISCED 0,1,2 + Vocational	11,5	19,7	8,5	7,6	20	34,9	17,1	0	15,9	0	7,2	4	16,2	23,6	0	10

Source: Labour force survey, Eurostat

low levels of qualification. It also offers them better prospects of being taken on and greater job security, except in Greece, Portugal or Spain, where the proportion of young persons with a general education predominates at ISCED 3, that is the level immediately above compulsory schooling (Box 5.1).

5.1.2 Growing interplay between training policies and employment policies

Strictly speaking, analysis of SME behaviour in relation to the education and initial vocational training structures would involve a close articulation not only between the problems of training and occupational integration but also between training and employment and labour market policies, firstly because the absence of an internal market in SMEs means they have greater recourse to the external market than do large enterprises; and secondly because the imbalances observed on the labour market have in most EU countries resulted in the adoption of policies designed to make employment standards more flexible, especially for young people experiencing difficulties in finding work and to encourage firms to recruit them. There are generally two aspects to this 'structural adjustment', and they are particularly well analysed by Lefresne in a recent thesis (1999):

- firstly, *the employment status is made more flexible* and/or financial incentives are introduced to encourage the integration of young persons, which are of particular advantage to SMEs;

- at the same time, vocational training needs to be developed or upgraded with the introduction of *new ways of bringing school and enterprise closer together*, that is of managing the training-employment transition, with particular use made of apprenticeship and alternate training.

There is no shortage of examples on both these fronts:

- for the first one might, for example, quote the case of Spain, where they have for several years been relaxing the recruitment rules by making greater use of temporary

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employment contracts for getting young people into work. There is also the United Kingdom, where wage costs have been reduced by breaking the link between the wages of young persons and adults, especially through the Youth Training Scheme (cf. Box 2.2) adopted in 1982, which has enabled many enterprises, especially the smallest ones, to take on juvenile labour at lower costs. We should also mention Italy, where new rules have introduced a 'starting wage' below the collectively agreed rate of pay for new entrants to the labour market and where there are now financial incentives for enterprises to recruit young persons on a part-time basis. Or even Germany, considered exemplary so far as the training-employment transition is concerned, where, given the growing number of young people without jobs on completing their apprenticeship, the *Employment Promotion Act* (1985) allowed enterprises to use fixed-term employment contracts (18 months) or to offer young persons completing their apprenticeship jobs unrelated to their training specialisation. Not to mention the introduction of 'exchange programmes' allowing large enterprises, which are increasingly unwilling to retain apprentices even though they helped to train them, to make them available to craft trade enterprises (Zedler, 1994).

- In the matter of bringing the educational system closer to the production system, we could highlight the development of apprenticeship and alternate training courses: in Italy with the *training and employment contract (CFL)* introduced by the Law of 1983; in the United Kingdom with the *Youth Training* scheme; in Sweden with the vocational integration courses; in Spain with the introduction of *training contracts* for graduate students or of the (reformed) *apprenticeship* proper. In all these cases, training strategies overlap with strategies for the vocational integration of young people; reforms of the education and training system go hand in hand with reforms of the labour market. Specifically, in exchange for financial assistance, enterprises agree – in theory, at least – to contribute to the training of young people. We find however that in most European countries SMEs have been expected to play a key role in these arrangements. We could go further, and say that just as training has increasingly found a place in active employment policies (as Join-Lambert et al., 1997, show for France), so the greater attention being paid to getting people into or back into work has more clearly shaped the initial or continuing training programmes for which SMEs have been the preferred vehicle.

5.1.3 The contribution of SMEs to the occupational socialisation of young people: between tradition and new deal

Despite the great diversity of national traditions, SMEs have long been making an established contribution to the occupational socialisation of young people coming out of education. Whether their contribution has formed the basis of a highly institutionalised system of career organisation (as in Germany and Austria), has been taken over and strengthened by occupational structures (as in the United Kingdom), has served to pick up those who have fallen by the wayside in a social system dominated by educational qualifications (as in Spain and especially in France), or the ground SMEs occupy has been neglected by the public player (as in Italy).

Apart from the disparities between countries (Aventur and Möbus, 1999), research reveals the importance of sectors (Curran, 1990; Curran et al., 1996; Dti, 1995), territories and local labour markets (Sperling, 1993) and the recent changes in production systems (Christe, 1998; Leicht, 1995; Campinos-Dubernet, 1999). In the rest of this chapter we shall try to show how all these factors work together.

In simple terms there could be said to be two types of national tradition in Europe as regards initial vocational training: countries where it has historically been socially discredited (as in France, the United Kingdom and also Italy and Spain) and countries where it has been highly structured and has become the centrepiece of the training system as a whole (Germany, Austria, Netherlands). A few examples will suffice:

Box 5.2: The place of apprenticeship in French small enterprises

In France, small units are the main enterprises making use of apprenticeship contracts (72% in 1996). The rise in hirings on assisted contracts since 1987 plays an important part in raising the level of qualifications within small enterprises. Apprenticeship in particular may be a 'Trojan Horse' of the first order (Bentabet et al., 1999). Already, 24% of young persons taken on by such firms are engaged as apprentices but, in particular, this method of training under a contract of employment alternating periods of schooling with periods in the enterprise, is no longer the preserve of young persons preparing for a CAP certificate. It is also open to persons wishing to take a vocational '*baccalauréat*' or a higher technical certificate (*brevet de technicien supérieur* - BTS) and now even for some future engineers (Pérot and Simon-Zarca, 1998). Finally, apprenticeship contracts are a crucial factor in the hiring of young unskilled workers in small firms in France. Having recruited them, however, do those firms nevertheless help to train them or help them to complete their training?

❑ In *France*, for example, vocational training has traditionally helped to provide workers for craft trades and large industrial firms. The modern form of apprenticeship, based on the law of 1971, recognises this as a type of initial training 'marked by a school-type diploma (issued by the Ministry of Education) and which sets all the base rules: employment contract, work in the enterprise alternating with training at the apprentice training centre (CFA)' (Aventur and Möbus, 1999: p. 195). It operated in parallel with the technical branches, which have become much more developed in recent years and which have frequently proved more appropriate for continuing studies.

Because it recruited from the lowest levels of education, vocational apprenticeship was in France long considered the 'way of failure'. For that reason, it still occupies a minority position by comparison with general education, which is considered the 'royal route' if not to social success then at least to a secure job and, above all else, to avoiding unemployment (Box 5.2).

Despite the many attempts to upgrade this type of training in recent years, we have seen a rapid growth in numbers pursuing studies beyond *baccalauréat* level (especially technical) and short vocational courses (DUT-BTS)[80] which were originally intended as a fast route to vocational integration for young people. In other words, with the exception of long-term higher education, whenever training became vocationalised it failed in its initial task (Trouvé, 1996). At the same time, we see a rapid structural change in the populations taking apprenticeships: whilst training in preparation for the basic levels of qualification (CAP: *Certificat d'Aptitude Professionnelle*) is on the decline, that leading to the highest level diplomas (Bac + 2 and beyond) is growing rapidly. This trend is highly significant for our subject: while the former – sometimes after a few adjustments – was relevant to SME needs and more especially to those of the smallest among them, the latter, which may now lead to qualification as an engineer, are probably more suitable for large enterprises.

However, this SME / LE distinction is not perhaps the most relevant today, because another split – along sector lines – has appeared within the SME category. It is true that small, even very small, establishments (hotels & catering, building, small retailers, agri-food industry and car repairs) continue to dominate the sectors that take the most starters with the lowest level of initial training. There are however also small enterprise sectors that are growing and demanding higher and higher skills acquired during initial training, such as business, legal and management services, computer engineering, social work & health, tourism & leisure, education, etc.

[80] Equivalent to ISCED 6 at European level.

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There is therefore a great danger that we will see a dualism developing at the 'young' end of the labour market, not necessarily involving a distinction according to enterprise size (the smallest always taking young people with the lowest level of training), but according to their position in the production system, which would allow some SMEs in innovative growth sectors to recruit the best-qualified young people coming out of the training system. This point remains to be further considered and explored in the future on the basis of Céreq's 'Generation 92' career pattern survey of 1992-leavers polled in 1997.

❑ In *Italy*, attention has only recently been paid to initial vocational training. Here, too, the young people engaging in national (at vocational institutes) or regional vocational education from the age of 14 are the ones who have failed to gain access to the general or technological streams. Vocational training course attendance rates nevertheless vary enormously from one region to another.

The alternate training system available to young people offers *apprenticeship* and *the work-training contract* (*'Contratto di Formazione-Lavoro'*). The former scheme is provided directly and in the majority of cases by enterprises[81] and is 'concerned almost exclusively with training manual and non-manual workers' for SEs in the industrial sector (Margirier, 1999: p. 275): in 1994, 57.7% of apprentices were in fact in manufacturing industry, compared with 17.9% in commerce and tourism and 13.4% in construction. The latter was created in October 1984 to combat youth unemployment and offer a qualification to academic failures. It therefore acts as a 'safety net'. In most cases, training is dispensed by enterprises internally and a certificate is issued by the employer at the end, which is endorsed by the local employment agency, but it is not really a qualification. Despite its usefulness, this formula, like apprenticeship, is in decline, since 220 000 young persons were involved in 1994 compared with 530 000 in 1989. It must however be said that it is used mainly by 19-24 year olds most of whom have no more than the compulsory level of schooling and 73.3% of whom are taken on by SEs with fewer than 50 on the payroll.

❑ At the other end of the scale from the above two countries, in *Germany* the apprenticeship model seems to have stood up better as a vector of vocational socialisation for young people, and SMEs have not always been 'condemned' to accepting the least-qualified young persons. It is nevertheless true that the dual system is at present undergoing a crisis because of a drop in the number of training places available and especially because young people are finding it more attractive to continue their studies (Möbus, 1999: p. 24). As in Italy, there are more young people in industry than elsewhere, but numbers are no doubt declining by comparison with the craft trades and especially the liberal professions, which are gaining ground[82]. In this country, too, there is therefore, alongside the changes in volume, a structural change in the subjects taken, by sector.

On this point, however, it would seem that many sectors dominated by SEs are still marked by a great need for training and for highly skilled workers (*Facharbeiter*). Thus, all sectors taken together, Leicht (1995) notes an increase in the proportion of skilled workers as well as in the proportion of enterprises employing 50 or less. Above that, the proportion stabilises at around 26%. The proportion of unskilled workers increases in line with size, from 7.8% in SEs of 1-4 employees to 32.4% for enterprises employing more than 500 (Table 5.1).

Also, according to the same author, it is SEs with between 5 and 19 employees (which have the greatest employment growth) that contribute the most to young persons' apprenticeship (10.7% of apprentices, compared to 4.8% in the over-500s). The author states that the manpower with the highest skills in relative

[81] Whereas the *State Vocational Institutes* and the *Regional Vocational Training Centres* serve only a small proportion of the 14-18 and 19-25 age groups.

[82] Unlike Austria, another mecca of apprenticeship, where the craft trades predominate (55%), compared with 17% in commerce and 'only' 13% in industry and 11% in tourism and transport.

Table 5.1: Distribution of occupational statuses by size class in West Germany - 1987* national economy / %

	Total (employees)		By class size 1987 (employees)					
Occupational status	1970	1987	1-4	5-19	20-49	50-199	200-499	> 500
Active proprietors	9.6	9.2	43.5	9.9	1.9	0.5	0.1	0.0
Assisting family members	3.0	2.2	10.4	2.4	0.2	0.0	0.0	0.0
White collar workers/ officials	30.0	38.1	28.8	41.1	41.0	40.8	39.8	36.4
Skilled workers	22.1	20.9	5.9	19.5	26.1	24.7	22.7	26.4
Unskilled workers	29.7	22.9	7.8	16.4	22.3	27.7	32.0	32.4
Trainees	5.6	6.8	3.6	10.7	8.4	6.2	5.4	4.8
Total (million) 100%	21.259	22.055	3.304	5.295	2.576	3.766	2.469	4.645

Source: *Statistisches Bundesamt* [Federal Statistical Office], own calculations.
* In workplaces; not including local and regional authorities, social security and PNPIs.

terms is found in an environment characterised by growing employment (craft trades, investment goods, material services). On the other hand, SEs in sectors dominated by LEs have a higher proportion of unskilled workers, which, according to him, means that the extraordinary growth of SEs is neither due entirely to a relatively lower skill level than LEs nor attributable to a 'shift' in unskilled activities from LEs to SEs (1995: p. 232). In some cases, therefore, the professionalism of highly skilled workers and craftsmen is indeed a prosperity potential even and especially in small enterprises, since their level of adaptability is a precondition for non-Taylorist concepts of flexible work organisation.

Like Christe (1998), Leicht puts particular stress on the sectoral and regional heterogeneity of SME situations. Hilbert and Sperling (1993), like Mendius (1988), say precisely that from their study of a sample of enterprises in the Paderborn area of Germany, noting that in Germany craft enterprises and highly structured large enterprises make the biggest contributions to apprenticeship (Table 5.2). This would mean there are sectors that do more than is strictly sufficient to meet their own needs (engineering, metal structures) and others that do less (wood, plastics, clothing). Moreover, the reason why nearly 60% of SMEs in the area studied do not train apprentices would quite simply be that they have no need for skilled labour or that they can easily recruit apprentices trained by other enterprises.

In Germany, as elsewhere, however, it is worth taking note of recent work presented by other authors. Kucera (1997), for example, comments that the craft trades are finding it increasingly difficult to get skilled manpower, because young people are abandoning apprenticeship for higher university studies. We are therefore seeing a kind of 'negative selection' (p. 69), now reinforced by a trend among skilled workers trained by apprenticeship to change trades (40% according to Henninges, 1994) and to move from the traditional craft trades and small firms to larger enterprises.

Table 5.2: Average rate of apprenticeship* by establishment size category in Germany, 1994

	%
1-9 employees	7.9
10-49 employees	6.6
50-499 employees	4.6
500 employees and over	4.5
Total	5.6

* Rate of apprenticeship: number of apprentices/total workforce
Source: Schaubilder zur Berufsbildung, 1996 edition, Vol 1: Training, BIBB (Former West Germany).

This calls into question the efficiency of the apprenticeship system as a whole, which is apparently confirmed by three BIBB and IAB surveys quoted by Kucera (1997: p. 71) showing that the use of initial vocational training has declined in the working population and that the gap between the content of apprenticeship and the demands of working life is widening.

It is clear from a reading of all these studies that the apprenticeship system is today facing difficulties of adjustment where the place of SMEs seems to be very much weakened, if not called into question. There are two main, convergent, reasons for this:

1. firstly, the general raising of the level of education over recent years in most EU countries, with 66% of the population aged 30-34 having in 1995 reached a level of studies equivalent to at least the second cycle of secondary education, that is ISCED 3 or above (Box 5.1). This is accompanied by a sociological change in the aspirations of young people, who are choosing either to continue their studies or to join large enterprises where working conditions are more favourable over all (on this point see Modrow-Thiel, Roßmann and Wächter, 1993).

2. Secondly, the crisis in the traditional forms of apprenticeship or, rather, in apprenticeship preparing for traditional trades, resulting from the effects of structural changes in the economy on the skills/qualifications required.

In the former case, it is to be feared that SEs will, for the best qualified young people leaving the training system, become at best a *stepping stone* to larger enterprises (as a number of surveys of early career paths in France have shown: Mansuy et al., 1999), or, at worst, *something better than nothing* and, possibly, an 'escape hatch' for the most resourceless among them. Such alternatives may be formulated differently depending on the national context, either, for example, because the stress is on the extreme inertia affecting recruitment in the smallest enterprises (as in Spain, for example, where they still discriminate against young people leaving vocational training, since this is not highly valued), or because of the weakness of the institutional frameworks (as in Italy, where the certificate on completion of apprenticeship is issued by the enterprise alone and there is no legal requirement governing the precise breakdown between time spent on training and on work), or as a result of the far-reaching sociological changes affecting the mentality of young people, who are increasingly being attracted to longer and more prestigious forms of training. Such is the case in Germany, for example, but also in France, where recent changes in the structure of 'user' enterprises and *apprenticeship* populations or in *'assisted places'* in the market sector[83], clearly illustrate this problem. In the case of *apprenticeship*, for example, while very small enterprises in the traditional user sectors are tending to decline in number, enterprises with more than 50 employees are growing the most. This must also be seen in

[83] Apart from apprenticeship the French combined training and work system includes the *contrat de qualification, contrat d'adaptation* and *contrat d'orientation*. Only the first two are of interest here, being based on the conclusion of a contract between the employers and a public or private-sector educational establishment setting out how the sandwich course will be organised. While the first type are fixed-term contracts (6-24 months) for young people aged 16-25 who have been unable to acquire a qualification during their schooling or whose qualifications do not provide access to employment, the second type are fixed-term or permanent contracts (6-12 months) for young persons aged 16-25 leaving the education system after completing a full cycle of initial training that needs to be complemented by general, vocational and technological education.

the light of the trend in the educational attainment of apprentices: while the lowest levels of training are static, the higher levels of education are growing (Sanchez, 1999-a). As for *combined training and work*, that is so-called 'assisted' jobs in the market sector in the French terminology, they seem to be going the same way. While in 1998 most such contracts were still being signed in establishments with less than 50 employees (72% of *contrats de qualification* and 49% of *contrats d'adaptation*)[84], they are making particular headway in units with more than 50 employees and are of interest to populations of increasingly skilled young people (Sanchez, 1999-b).

The analysis of the structural changes to systems of production in turn leads to a variety of possible developments, almost all of which may exist side by side. It explains, for example, the increasing difficulties encountered by SMEs in continuing to play a preferential role in training and vocational integration and an increasingly evident *dualisation* between small enterprises in the traditional sectors (sometimes condemned to be the only place where the least qualified young people can find their first jobs or where people in difficulty can get (back) into work) and small enterprises in high-technology sectors or intellectually sophisticated services with the highest skill needs. On the first point, the detailed investigations made by Campinos-Dubernet in France (1999) are highly illuminating: while SMEs take 80% of young secondary-school leavers (Levels V and IV)[85], they are less and less able to provide the additional training in practical skills in some sectors of activity (mechanical engineering, plastics technology) where know-how is inductive, that is building on in-depth theoretical knowledge already obtained. According to this author, the *incompleteness of the professionalisation profiles* produced by the school system obliges some SMEs to take responsibility for completing young people's education. However, the constraints of competition and the growth of subcontracting are now making them less able to do so, especially given the risk that the young people they train will then be recruited by other enterprises. Hence the development of the use of intermediate formulae to test young people's abilities before taking them on (interim, apprenticeship, assisted contracts with the cost of the vocational apprenticeship recovered from the public authorities).

5.2 SME use of CVT: low use of formalised training

The greatest paradoxes of SMEs are well known: while characterised by less favourable skill structures than LEs, they seem to make less use than LEs of structured continuing vocational training programmes. While they apparently play a key role in getting young people into work, especially those with low skill levels (see above), most of them seem to be incapable of developing their skills and improving their long-term employability. 'Although owner / manager attitudes to vocational education and training are largely positive, its actual provision fails significantly to keep pace with the perceived needs of small firms' (Matlay, 1997: p. 587)[86]. We have already seen that most present-day research seeks to complicate the most unequivocal opinions about initial vocational training. So what about continuing vocational training? Can any useful conclusions be drawn, not only from national studies but also from those on a European scale?

According to D'Iribarne (1988), the basic 'ingredients' of continuing training systems are similar from one country to another (players with their roles and objectives, intervention structures, operational structures, instruments and levels of intervention), but they are

[84] It is interesting to note that in addition to training/employment schemes, some measures taken to help jobseekers aged over 25, such as Employment Initiative Contracts, have also been used on a massive scale by VSEs with 1-5 employees (44.4% of persons recruited in 1995) and SEs with less than 50 employees (83% of persons in the same period) (Charpail and Zilberman, 1999).

[85] That is the equivalent if ISCED 2 and 3 at European level (cf. Box 5.1).

[86] At least, this is what appears from a survey conducted by the author of over 2 000 SMEs.

Figure 5.3: The employer's role in initial vocational training and continuing training

Employers role		In continuing training		
		Weak	*Medium*	*Strong*
In initial vocational training	*Little weight*	Spain	Belgium	Finland Sweden
	Not very formalised	Italy Greece Portugal		United Kingdom
	Minority and institutionalised		Ireland Luxembourg Netherlands	**France**
	Dominant and institutionalised		Germany Austria	Denmark

Source: 'Initial and continuing vocational training in Europe', March 1999.

often very strangely combined, with strong coherences peculiar to each country, since they are generally 'heavy social constructs'. For example, the articulation between initial training and continuing training at the employer's initiative often proves highly discriminating.

5.2.1 The articulation between initial and continuing training: great differences between countries

The use made of CT is in fact the result not only of the extent to which it is institutionalised in each country, but also of the links between CT and the initial education system and the labour market. In other words, the practices of continuing training at the employer's instigation have to be placed in the context of how initial vocational training is organised in the country concerned. That, at least, is the hypothesis advanced by Aventur, Campo and Möbus (1999).

Several situations can then be distinguished (Figure 5.3). Roughly speaking, the first case is where *enterprises invest heavily* in continuing training in addition to initial vocational training focused on apprenticeships and academic qualifications. Here, CT is seen as a way of 'catching up' or a 'second chance'. That is the route taken by France, and also by Sweden, where, for other reasons (there being no apprenticeship), employers need to initiate the individual into the specific knowledge/skills of an enterprise or branch.

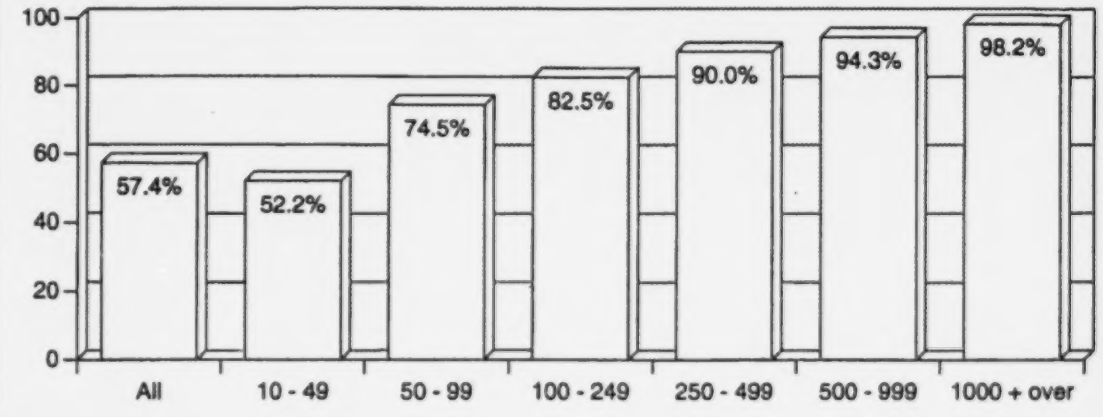
The second case is that of Germany. Here, enterprises are very much involved in initial training (by way of apprenticeship) and *invest less* in continuing vocational training (on this point see also Gehin and Méhaut, 1993). The picture is much the same in Austria and, to a lesser extent, the Netherlands.

The third situation is that found in Italy, Spain, Portugal and Greece. In these countries there is a *progressive complementarity* between the efforts to structure initial vocational training and the emergence of rules for the organisation of continuing training.

Looked at in this light, Denmark's position seems unique, since apprenticeship and employer's initiative continuing training exist on an equal footing, the two types of training being considered very much complementary.

Other work, however, (see in particular European Commission et al., 1997 or European Commission, 1999), based on the findings of the Continuing Vocational Training Survey (CVTS) covering 12 Member States of the EU, stresses the inequalities of access to continuing vocational training between different sizes of enterprise.

Figure 5.4: Enterprises offering continuing vocational training by size of enterprise – EUR 12 – 1993 – %



5.2.2 European work on inequalities of access to CVT

According to this research, while more than one half (57%) of enterprises with more than 10 employees organise continuing vocational training courses for their employees (representing a participation rate of about one third: 28%), this figure masks great differences between enterprises according to their size (Figure 5.4). In fact, in those with more than 1 000 employees, almost one in two employees has the benefit of a vocational training course during the year. On the other hand, in the smallest enterprises (between 10 and 50 employees), only one in ten has that opportunity.

Of course, the use made of CVT also varies considerably from one sector to another. Thus, the rate of staff participation is approaching 60% in enterprises in sectors that have experienced rapid organisational and technological change over recent years (energy, posts and telecommunications, banking and insurance). In hotels and catering, construction, retailing and repairs, on the other hand, sectors where small enterprises predominate, the participation rates are only 23%, 14.7% and 27% respectively.

We shall see below that courses are the preferred type of CVT offered by enterprises, even in the smallest of them (Table 5.3). But it is worth asking whether the survey methods used (administrative survey, questionnaires, etc.) do not favour this configuration. It is true that training 'in work situation' accounts for a significant proportion and that the use enterprises make of training increases with their size, regardless of its type. In other words, contrary to what is commonly believed, apprenticeship on the job operates less as a substitute than as a complement to formalised training in all enterprise categories.

Moreover, there is a marked distinction between the rate of participation (volume of training received by employees) in enterprises offering CT courses and in enterprises as a whole. For this reason, not only are employees of small enterprises less likely to be employed by one that offers training, but even where training is provided, they have less chance of taking part than do employees of large enterprises.

On a qualitative level, finally, SEs make less effort than LEs to assess their manpower and skill needs (European Commission, 1999: p. 53) and fewer of them have staff specialising in training management (only 15% of enterprises with 10 to 499 employees against 93% for enterprises with more than 2 000 employ-

Table 5.3: Enterprises offering different types of training by size of enterprise (per cent)

Size	Courses	Training in work situation	Conferences, workshops, seminars	Job rotation, etc.	Self training
10-49	36	34	29	10	10
50-99	63	50	49	21	21
100-249	76	58	63	30	28
259-499	85	69	71	38	38
500-999	93	74	76	47	43
1 000 +	92	85	80	50	52
Total	43	38	34	14	13

Source: European Commission, 1999.

Table 5.4: General data on enterprise-funded continuing vocational training by size of enterprise in France, 1996

	10-19 employees	20-49 employees	50-499 employees	500-1 999 employees	2 000 + employees	Total
Number of enterprises	30 673	53037	26 774	2 001	390	112 875
Expenditure (in millions of FRF)	892	3 826	11 735	9 619	19 404	45 476
Rate of financial participation (%) (3)	1.73	1.87	2.52	3 .48	4.87	3.25
Employees	449 822	1 710 817	3 501 814	1 862 244	2 511 718	10 036 415
% of enterprises providing training (1)	26.9	43.8	76.2	96.6	98.2	48.0
Rate of access (%) (2)	8.7	12.9	29.9	47.3	52.8	35.0

(1) Having had at least one person on a course
(2) Not including combined training and work
(3) Total training expenditure x 100 / total payroll

Source: Exploitation of tax return No 24.83, Céreq.

ees). Moreover, they are less likely to have a training plan or a training budget (idem: p. 55). However, where they do have a training plan, SEs (10-49) have almost the same participation rate as large enterprises (44% compared with 49%). There is therefore probably a link of cause and effect between the existence of a training plan and the level of development of CT practices (idem: p. 60).

The French data, which are quite precise on the subject, complete the picture of CVT 'deficits' in SEs. They show in particular that the two national objectives set by the 1971 law for equalising opportunities for both enterprises and individuals have not been met. The two registers are moreover closely linked, and the size of the enterprise in fact plays an important part in the disparities in training access between occupational categories.

1. On the one hand, SEs have difficulty in raising themselves above the statutory threshold (1.5% of the payroll) and participation by enterprises with 2 000 employees and over is three times greater than by those employing 10-19 (Table 5.4); the gap between the proportion of employees with access to VT in small enterprises and in the largest ones has tended to grow despite a higher growth in the rate of financial participation of the smallest enter-

624

Table 5.5: Trend in enterprises' (10+ employees) rate of financial participation in funding of continuing vocational training in France

Number of employees	1975	1985	1996	Growth 95/75	Growth 96-94
10-49	0.70	1.14	1.73	+ 140 %	+ 7.5 %
20-49	0.89	1.20	1.87	+ 103 %	+ 1.1 %
50-499	1.17	1.51	2.52	+ 117 %	+ 1.6 %
500-1 999	1.49	2.12	3.48	+ 135 %	- 0.9 %
2 000+	2.53	3.62	4.87	+ 94 %	- 3.8 %
Total	1.63	2.24	3.25	+ 100 %	- 1.2 %

Source: Exploitation of tax return No 24.83, Céreq.

prises by comparison with the largest in the long term (Table 5.5).

2. On the other hand, not only does enterprise size affect the disparity between socioprofessional categories (for example, an unskilled manual worker in an enterprise of 2 000+ employees has in fact twice as much chance of access to training as an executive in a small enterprise), but in particular, socioprofessional inequalities in the end appear greater in small enterprises than in large ones: for example, the difference between the rates of access of executives and unskilled manual workers was 5.6 in 1993 for enterprises with 10-19 employees, as against 1.9 for enterprises with 2 000+ employees (Bentabet et al., 1999). In other words, in the French context, SEs are more elitist than LEs.

There seems therefore to be a broad consensus at European level around two findings based on statistical data: overall, SMEs make *less* and different use of continuing training than do large enterprises for developing or renewing their employees' skills. While the latter tend to favour organised training, the former prefer on the job training and make greater use of new staff recruitment. Over all, they recruit more than they train (Aventur et al., 1998).

5.2.3 Two interpretations of the deficiencies of formalised training in SMEs

Two interpretative approaches are generally encountered to these two findings: the one tries to put the emphasis on the inadequacy of *the supply of continuing training* in the respective national context; the other gives more priority to the specific nature of the *demand for training* in SMEs and the more or less spontaneous adjustments of which they are capable. We shall now look at these two aspects and try to stylise them.

1. The first interpretation harks back to *the failure of normative models*: SMEs' deficiencies in continuing training are explained by the chronic inadequacy of the institutional structures. This is the problem discussed by such authors as Verdier in France or the British analysts, who on this point have voiced the same criticism of both the old system of vocational training (corporatist regulation) and the new institutional framework of VET (see Chapter 2.2 of this paper, which is devoted to this point).

In the case of France, whether the law of 16 July 1971 is seen as 'a statist institutional edifice' (Santelmann, 1999) or the product of a 'negotiated legislative' path (Verdier, 1999: p. 11), most authors agree that in its excessive formalism it is far removed from the specific needs of SMEs. It is a common thread throughout Verdier's successive studies: there is a contradiction between the formalised nature of the law, whose model remains the course disconnected from production and work, and the specific characteristics of SMEs. By introducing an obligation to spend money on continuing training for all enterprises employing 10 persons or more without distinction, it has merely reproduced the gap

between enterprises that already trained their employees and those that were clearly lagging behind. It has also proved incapable of dismantling the structural inequalities between SMEs and LEs, most of which are nowadays almost always above the statutory minimum (Verdier, 1991).

The same author also highlights 'the relative failure of the intermediate institutions' responsible for mutualising the funding intended for CT (joint bodies or employers' trade associations) that were initially supposed to act as interfaces 'between the central norms' and the specific needs of enterprises. In most cases, they were unable to avoid transfers benefiting larger enterprises. Bentabet et al. (1999) reiterated this diagnosis, focusing more particularly on the extension of the norms to very small enterprises (law of December 1991). Despite the statistical data being less precise than for enterprises with more than 10 employees and covering a smaller field, they showed that mutualisation was of particular benefit to VSEs in certain sectors, such as business services, because of their greater ability to decipher a supply system that had become increasingly opaque and complex as time went on.

There is another possible interpretation: faced with the deficiencies in the official schemes or in parallel with them, SMEs may be capable of generating dynamic adaptive behaviour like any player on the labour market. If that is the case, *they do not necessarily train less than large enterprises, but they do train differently*, preferring in particular apprenticeships in the work situation. Before examining this thesis in more detail (cf. 5.2), it must be understood that it has been supported by a large number of Italian authors, especially those interested in the processes of constructing vocational qualifications and acquiring skills, not only by way of formal, codified apprenticeships, but in their articulations with the activity of work and social experience (on this point see Meghnani, 1992, 1995). Thus, Capecchi (1993, 1995) cites the case of local communities with a strong technical tradition that have been able to train generations of craftsmen or technicians in Emilia Romagna. We also saw earlier that in local systems of the Italian type the career paths of both workers and employers could in many respects be seen as apprenticeships, something all the more relevant because in Italy VT, like the rest of the state-run educational system, does not inspire much confidence. Devolved to the regions since the law of 1992, some believe it has got even worse (Giorgetti, 1995). Hence the massive differences within that country and the divisions of which the North-South divide is just one example, with SMEs in the South lacking an adequate system of training (Bernardi and Trivellato, 1994).

This thesis of *SME adaptability* is also developed by some German researchers, however. Büchter (1998), for example, believes that, contrary to what is said in public, few SMEs are complaining of skill problems. The only ones to do so are those that need and already have a highly skilled workforce, especially in the high-tech sectors. But, he argues, most have shown a remarkable adaptability thanks to 'muddling through' and to existing skill reserves built up piecemeal over a long period. In an institutionally and socially stable context, moreover, they are able to 'count on their employees' to adapt ('learning by doing') and on cooperation between suppliers and manufacturers.

5.2.4 The main factors determining demand for training

More generally, a lot of European research tries to answer the question of the main factors determining training practice in SMEs. A few examples will be mentioned here.

5.2.4.1 The key variables

Curran et al. (1996) stress the importance of *size, sector, market conditions* and the *legal and institutional framework*. The size of the enterprise is certainly important in that it determines the material resources available and the likelihood that the training effort will pay for itself (the enterprise's 'internal market'). The effect is not the same in every country, however. In Denmark, for example, the link between enterprise size and the amount of use made of continuing training is not as clear as elsewhere and this 'atypical' situa-

626

tion deserves further analysis. Also, while the split between small and large enterprises is particularly acute in the south of Europe (France, Italy, Spain, Greece and Portugal), the same does not apply in the northern countries.

Looking at VSEs, other authors (Bentabet et al., 1999) add to the list the *legal status of the enterprises* (independent, company form, subsidiary) or their *place in the value chains*, the *methods of access to the profession* (closed / open)[87] and the *sociological profile* of their managers, not to mention the *local or territorial contexts* in which small firms operate, and their *strategic behaviour* (that is the product-service/market pairs). The researchers mentioned consider this a key variable, e.g. Verdier (1990-b: p. 299), for whom 'recourse to continuing training is linked to the enterprises' position and that of their activities in the production chain. It also depends on the characteristics of the resources deployed in the productive combination'. Drawing on a study of professional electronics, this author in fact notes with Grando that the *capital intensity*, the *technical nature of the products* and the *job structures*, which favour the best qualified levels, entail a massive use of continuing training (Grando and Verdier, 1988). Therefore, taking into account the heterogeneous nature of production structures in the French context, it is not so much the prescriptive nature of the statutory provisions that makes them particularly difficult to apply to SMEs as their excessively homogeneous nature (Box 5.3).

On the basis of a consultation of experts, Gil S., Allesch J., Preiß-Allesch D. (1993) for their part make a systematic analysis of the barriers separating heads of small firms from the world of training. They identify no less than 70 factors most commonly mentioned in specialist literature, dividing them into three categories: factors relating to *demand* (like the lack of training infrastructures in sector associations, the small entrepreneur's rejection of 'traditional' training), those concerned with the *supply* (excessive cost of training, inappropriate training methods, lack of pedagogical skills and especially insufficient knowledge of SMEs on the part of trainers), and, lastly, those connected with the *environment* (excessive red tape involved when SMEs apply for official assistance, lack of LE/SME cooperation for training heads of SMEs, etc.)[88]. All these factors are inextricably linked. The authors describe them as a 'jigsaw puzzle' and they try to complete it on the basis of 36 examples of 'good practice' and 11 sets of recommendations.

Looking more specifically at the obstacles to the use of formalised training in SMEs, Grasser et al. (1999: p. 26) summarise in this way the obstacles 'tirelessly recorded and repeated' in the literature: 'inadequate own resources for training their employees themselves; a relatively limited temporal economic perspective preventing SMEs from implementing a proper training policy; difficulties in 'releasing' staff because they cannot be replaced temporarily; the impossibility of offering career prospects and internal promotion and the fear that, once trained, staff will leave, making it difficult to encourage training or to get employees to value it'. The authors say that financial incentives have no effect on these last points.

Inadequate supply ... and the impasse of needs analysis

Inadequacy of supply has also been suggested as a barrier to the development of CT in SMEs and an ignorance of SMEs' true needs has often been blamed for this. Hence, enterprises have for some years now been the subject of a growing number of studies seeking to clarify their 'skill needs' and to give decision-makers concrete answers. However, most of these analyses have proved extremely disappointing in use. One reason for this has been methodological difficulties following the necessary

[87] In some branches of the craft trades, for example, the possession of a certificate of competency is *for the manager* both an operating permit and a protected way in for exercising his profession.

[88] This factor should not be underrated. In France it has in fact been the subject of a position paper containing 37 administrative simplification measures recommended by the State Secretary for SMEs.

Box 5.3: Market constraint, industrial strategies, type of qualification requiredand training practices in SMEs
The example of professional electronics

- subcontractors dependent on short-term orders from their clients are not able to make long-term investments in training:
➨ Enterprises of this kind are often involved in bottom-of-the-range products and prefer qualities like 'dexterity or tenacity' which have little to do with formalised training;
- a subcontractor who becomes his backers' 'partner' has to meet quality standards that result in formalising and/or raising the enterprise's skill levels:
➨ Less dependent on prices and with a longer-term outlook, he is also able to invest in training, making it part of an industrial strategy;
- a designer of specific products meeting his clients' particular demands combines great technical knowledge with skills built up over a period of time, often on the job:
➨ Use of courses will be only ad hoc, motivated by the desire to familiarise his employees with a new process, for example; these will then pass the knowledge on to their colleagues;
- designers who themselves place orders with subcontractors in order to concentrate use of their high skills on product design, assembly techniques and marketing. The corresponding technicians, engineers and sales staff are however often active on an inter-enterprise job market and their employer is exposed to periodic external mobility:
➨ The return on training is not therefore guaranteed, and these enterprises sometimes confine themselves to ad hoc training; building staff loyalty or constructing an internal market determine the enterprise's reliability in the medium term.

Source: After Grando and Verdier (1988) and Verdier (1991: p. 44).

abandonment of normative models based on the large enterprise (on this point see a whole gamut of German literature, including: Stockman and V. Bardeleben, 1993, Kailer, 1992; Paulsen 1992, Kramer, 1995), and they have also proved disappointing when it comes to implementing new training practices more tailored to the needs expressed.

Some empirical research in Germany has shown that, unlike the technocratic concept developed in regional, national or European institutions, SMEs seldom consider skills an essential part of their strategy (Höfkes and Beyer, 1995). A simple cost-benefit calculation is enough to make them reject formal, planned CT as not applicable and in the end to prefer ad hoc adjustments that are closer to the needs of a small enterprise. According to the authors, this has been encouraged by the lack of a law on CVT in Germany.

As for the famous and countless 'needs analyses', either the information collected is too vague and too general to be of any practical use, introspection in the matter of skill and training needs not being an SME speciality, especially for the smallest of them (Lehmann, Speckmann, 1993), or the demands expressed are so specific that they would require tailor-made training, of necessity expensive, for every enterprise or group of enterprises with identical interests. Finally, even if the CT available were highly adjusted and differentiated according to the enterprises or regions concerned, that would not mean that it became a strategic part of enterprises' consideration of their future reorganisation (Modrow-Thiel, Roßmann, Wächter, 1993). Hence, some researchers say it would be better to stop looking at needs that are often artificially wrung out of SME managers and instead to use empirical studies to look more closely at how they manage their manpower (Bentabet et al., 1999).

Another point of view is taken by Hyland and Matlay (1997), who use an extensive survey of 2 000 independent small enterprises in five different sectors of activity in the West Mid-

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lands as a basis for in-depth interviews with 246 of their managers. We find here a mixture of internal and external factors like *the enterprise's stance on the market* of products or services, the *prevailing economic and institutional climate*, which are described as the most important at the same time as 'the lack of training schemes relevant to their specific needs' (87% and 81% for respondents from industry and services respectively), while the availability and cost of training and the 'inevitable time constraints' are mentioned only half as often. As to the more 'personal' or 'secondary' factors affecting SME bosses' attitudes to training, the authors consider that 'by far the most important was the previous education and training experiences of the individuals concerned' (1997: p. 133). That is why it is interesting to think about manager training.

5.2.5 The importance of manager training

Special attention has always been paid to 'management resources' (Manz, 1993) as a factor explaining SMEs' continuing training practices. In general, two registers can be distinguished concerning either the initial training of the managers themselves or their continuing training. The first has been studied especially from a sociological point of view and concerns significant determinants over which decision-makers have little control. We looked at them ourselves in the context of a localised production system, examining 'the social construction of entrepreneurial behaviours' (Trouvé, 1989). The second may either be linked to the experience of the managers – by way of concepts of *self-examination* as developed by Le Meur (1993), of *sociology of action* as in Perrien (1994), or of previous *career paths* as in Ardenti and Vrain (1998, 1999) -, or be considered a preferred lever of policies to stimulate training in SMEs by way of formal training for their managers or for enterprise creators (Education Permanente, 1993; Melis et al., 1993).

In this latter field, some international literature does indeed look at the links between 'management training' for managers and owner-managers and SME performance in terms of survival, profitability and turnover and employment growth (e.g. Pell et al., 1992; Hewitt, 1993; Kinsella et al., 1994). Nevertheless, it is 'rather sparse' according to Westhead and Storey (1996), or fails to take direct account of access to training as an explained variable. In every case it tends to be the SMEs' economic performance that is examined and the findings seem fairly inconclusive. For example, while Cosh, Duncan and Hughes (1998) do find a correlation between formal manager training and growth in turnover and employment from a survey of 1 640 SMEs employing less than 500 people over two different periods in the United Kingdom (1987-90 and 1990-95), they fail to check it against the profit level. At the same time, they develop a finely shaded opinion, suggesting that formal training affects the survival and performance of SMEs of a particular size or during some periods but not others. Kitching (1998) comments: 'in itself, this constitutes an advance over previous thinking that training necessarily leads to increased chances of survival or improved business performance for small enterprise owner-managers and suggests that policy-makers may better employ public resources by targeting training at specific kinds of small enterprise'.

Westhead and Storey (1996) go further. In a remarkably well-documented article that sets out to examine the European and non-European literature on the subject (Canada, US, Australia), they show that the link between management training for managers and the economic performance of SMEs is very 'weak' and that training in management is less relevant in SMEs than in LEs. They take up the argument adduced by Baldwin et al. (1994) for Canada, according to whom 'business success was not associated with training alone'. In an earlier publication, they had already found this to be due primarily to the methodological failings of the studies claiming to establish a relationship (Storey and Westhead, 1994). Considering on the one hand that the main characteristic of SMEs in relation to LEs is the 'external' uncertainty to which they are subject and which causes them to take a short-term view incompatible with investment in training, even in management, they think the same reason explains the low

demand from managers who are not owners and consider there to be an urgent need for 'additional carefully conducted research' in the field.

Here we have findings (or rather a lack of them) that contradict the certainties of those who defend training and HRM and that ought to be seriously considered by future research. What should we say, then, of the empirical work of Baldwin et al. (1994), who show, in general terms, that 'the most successful businesses tended to train fewer workers than a less successful group of firms. In addition, the more successful firms were more likely to provide formal training and less likely to undertake informal training'? True, these authors add that 'The results for training might disappoint the advocates of the importance of training. This should not be so. The results do not mean that training is counter-productive. They only indicate that the more successful do no more training than the less-successful firms' (1998: p. 78). Clearly, a distinction would have to be made according to the extent of the training (generalised to all staff or targeted on a subpopulation) and the differences between the formal and informal nature of training better identified. Most of the European research that we shall look at now has in fact been concerned with this latter opposition.

5.3 The ambiguities of 'Training on the Job'

As we have seen, for most of the research concerned with statistical data, SMEs make less use of training than do large organisations, especially in the most structured form, and they make inadequate use of the skills available in their environment. This is what causes Perrien (1994) to say that 'the trainer remains on the SME's doorstep'. Most of the time, therefore, it remains for qualitative monographs to show that, in small firms, the deficit would be offset by a wider use of informal or implicit training in the work situation.

Care should however be taken with this overworked argument. While it would be absurd to deny that large enterprises have any ability to provide on-the-job apprenticeships, neither can SMEs be held to be definitely unsuitable for formalised training. This would explain why taking account of the relative importance of informal practices does not necessarily narrow the gap between SEs and LEs, as is shown by the work by Serfaty and Delame (1991) for France or the European data presented in Table 5.3. True, for the former, on-the-job training always carries more weight than official training in SEs (about three times more), but it still represents about 1/3 of the financial effort of large enterprises with more than 1 000 employees and the importance of undeclared courses increases with size. So what is the real picture?

5.3.1 The inadequacy of the tools for measuring SME involvement in vocational training

Firstly, it should be pointed out that the deficit thesis is concerned at least in part with the inadequacy of today's tools for measuring, observing and comparing continuing vocational training practices, either for comparing SMEs with LEs or for international comparison purposes.

To begin with, most national statistical systems use a restrictive definition of training[89] and find it hard to record the informal training practices that predominate in SMEs. However, the same applies to the theories on human capital formation, which more often than not look only at the number of years' schooling or the completion of a level of education as capital-forming activities (OECD, 1998: p. 88). Among the many studies that all come to this conclusion, one might mention those by Hendry et al., 1991, Goss and Jones, 1992, Vickerstaff, 1992, Nove et al., 1995 and Bentabet et al., 1999. That is why a lot of the research is given over to a criticism of the statistical sources and to defining the concept and the various types of training (Box 5.4).

[89] On the other hand, Curran et al. (1996) note that 'a wide definition of 'training' covers both in-house and informal training as well as external training including that leading to formal qualifications' (p. 17).

Box 5.4: Training typologies

1. *Formal Off-the-job Training*: all forms of instruction that take place away from the workplace and which are designed to increase knowledge and skills in relation to the job. Such training may be provided by public-sector institutions (i.e. colleges of further education) or private-sector bodies. Such training may - but not necessarily - lead to a recognised qualification.

2. *Formal On-the-Job Training*: training geared directly to the acquisition of a level of qualification necessary for the job held but which takes place separately from production activities. This training is often provided by private-sector bodies, such as equipment suppliers, to ensure that employees know how to use the equipment better.

3. *Informal On-the-Job Training*: any activity that increases the knowledge and skills of individuals in relation to the tasks they have to perform, but not requiring more than very short periods of time away from production activities. For example, new employees or the less skilled may be 'mentored' by more experienced or better-trained ones who advise them if they encounter problems.

4. *Informal Off-the-Job Training*: Activities that develop individual skills but which are intermittent and of limited duration and do not necessarily lead to clearly defined qualifications. It may mean, for example, attending trade shows, taking part in seminars or workshops, visiting suppliers or other enterprises in the sector, studying work-related documents in their own time.

We can also distinguish:

- *initial training* (formal or informal) accompanying 'induction into the job role' or for new or recently promoted employees starting their jobs.
- *continuing training* (formal or informal) designed to enable the firm's present employees to maintain or enhance their skills or acquire new ones.

Finally, the training process may be described in terms of three dimensions:

- *duration*: may vary from less than an hour to several years, be continuous or broken down into several periods, sometimes planned in advance according to precise objectives.
- *intensity*: may vary regardless of the degree of formalisation of the training. The length, complexity and stratification of the training required depends on the standard of competence defined and required by the employers (cf. the national system of vocational qualifications - NVQs in England and SVQs in Scotland). Similar distinctions may also operate in some informal training.
- *scope*: this may be divided on the basis of whether the skills acquired are easy or difficult to measure. The 'informal' label is generally applied in the latter case. However, the least well-defined and least measurable training may be of prime importance, as in the case of economic activities involving the production and handling of intangible goods.

Source: After Curran et al., 1996: pp. 2-3.

Comparative data on the subject at European level are even more difficult to come by. Felstead et al. (1998) warn us that 'the interpretation of statistics on training at European level is full of pitfalls and must be undertaken with the utmost care'. The issue here is not only the divergent national concepts of training (Campanelli et al., 1994) but also the data collection techniques and the breaks in time series that occur despite the 'harmonisation and synchronisation' work done by Eurostat in particular since 1960 (1992: p. 53).

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5.3.2 Uses and limitations of the cottage industry paradigm

The on-the-job training argument is very often used to relativise or qualify the apparently irrevocable verdict on SME handicaps in the matter of training. Such is the case of the many qualitative analyses of practices, which have at least shown all the complexity of apprenticeships in the work situation. The upshot of such investigations is most often that SMEs not only contribute less to skills formation, be it because of their different arrangements more integrated into daily production activity or by concentrating their training in particular moments in their development, such as on their creation, when making new investments, when they change hands, or when quality policies are introduced. Moreover, the skills that they create or maintain are not the same as those acquired by formal, codified apprenticeship, either. From this point of view, they are more suited to passing on initial or 'elementary knowledge and skills', just as they are 'a more favourable landscape for practical apprenticeships', or at least less abstract than large enterprises (Drexel et al., 1986).

What we are marking out here is the paradigm of the craft trades, whose advantages many researchers are trying to identify in order to see whether they might be extended to all small enterprises, whether the accent is on the particular forms of socialisation to which they give rise (Zarca, 1986; Combes, 1988; Bentabet et al., 1999), or they are trying to think in terms of their contribution to general human capital formation. This is what Kucera (1997) does in particular, drawing on the German example which shows that apprenticeship and continuing vocational training in a craft trade situation have significant advantages: on the one hand, they allow the product and the skills of the apprentice ('*Auszubildende*') to be produced simultaneously ('*Kuppelproduktion*') for a net cost (that is, the gross cost less the advantages brought by the apprentice) that increases with size; on the other, they offer a proximity to working practice that college apprenticeships cannot provide; finally, their integration into production activities makes for greater versatility.

The positive external effects of on-the-job apprenticeships are therefore considerable, and all the more so since a major proportion of the individuals trained by apprenticeship, especially in the craft trades, are able either to create their own enterprises or to go for a complete change of career, often moving to larger enterprises. Such is the case, for example, in France (Bruand, ...) and Germany, where nearly 40% of craft workers change their trade (Henninges, 1994). Should we see these processes of mobility, especially at the start of a career, as an imperfection in the training-employment relationship and a poor use of the initial vocational training, or should we, as we did above (cf. Chapter 4.3), consider VSEs to be acting as a place of transition on the labour market?

Nevertheless, it would be wrong to reduce the SME training model to that of informal apprenticeships, contrasting it without qualification with the essentially more formalised model of the large enterprise (Verdier 1990-b: p. 303), because, for one thing, large enterprises are not unaware of the processes by which skills are passed on at the workplace and, for another, small enterprises are not chronically unsuited to formal external training. What needs to be rethought are the ways in which different forms of training are articulated, so as to avoid 'courses' becoming so disconnected from the actual performance of work as to be far removed from the realities of SMEs, while at the same time preventing apprenticeship from becoming so closely adapted to the job in hand as to preclude any kind of inter-enterprise transfer or mobility.

5.3.3 SEs are not unsuited to codified training or to using outside training

Several situations are adduced in the literature to explain that the prospects for developing structured external training in SMEs are not zero, even in the smallest of them.

❑ *First of all because of the heterogeneity of the field of SMEs*: highlighting three major configurations of SMEs / VSEs, Bentabet et al. (1999) stress their greater or lesser reservations about institutionalised arrangements for training. Represented in the first of these

632

by the most widespread traditional small firms, 'family firms' and the self-employed, where the employment relationship between the head of the enterprise and the employee is the most personalised and where the building of skills depends very little on formal qualifications and formal continuing training, enterprises find it most difficult to provide training in the form of 'courses' outside the work situation. The second configuration, described as 'ideal-typical', involves 'managerial, integrated or modernised VSEs/SMEs' at the opposite end of the spectrum. They are extremely sensitive to the market through their involvement in various networks (franchise, branch, part of a group) and the methods of human resources management are much more formalised than before with vocational diplomas being required and significant use made of external formal continuing training. Employees can be assumed to have wide access to training in this situation. The third configuration is indicative of practices half way between the previous two. It embraces 'entrepreneurial VSEs/SMEs' where the pattern of activity is marked by breaks and innovations enabling the enterprise to differentiate its products or services, where employment relationships are in the process of being formalised and where the skills required are both the product of a technical culture and the result of experience in a particular field. Here, continuing training is marked rather by a hybridisation between the two previous models: both external and formal, but also 'on the job' and most often provided by other employees through a 'trickle-down effect'.

Training practices must therefore be examined in the light of this extreme differentiation of the SME fabric as it appears in most of the most recent work. The targets and possible expansions of training in SMEs should be designed on the basis of this differentiation.

❑ Then, training practices can also be differentiated according to the *time span and life cycle of SMEs*. Looking at the *supply of training* and the regulatory abilities contributed by the intermediate players (consular bodies, trade associations, public or private consultancies), we find that a number of – at least partial – responses to small enterprises' training needs involve identifying specific moments and publics that facilitate investment in training in those enterprises. Thus, the transfer of an enterprise, the purchase of new equipment and its corollary the expansion of activity, as well as changes in product-market pairs, improvements in quality or the tightening of management constraints (delivery times, just-in-time) are important moments that very often open a wider breach into management problems which in turn call for training. As for the publics concerned, young people and especially husband and wife teams, they also help to structure the training supply. Thus, in the report by the European Commission, Eurostat and Cedefop (1997), based on data derived from the Labour Force Survey, a chapter is devoted to CT for the self-employed as compared to employees. Among other things, they state that, among the self-employed (with no employees) women undertake the most continuing vocational training (almost 4% of them, compared with just over 2% for men).

❑ Finally, observation of innovating SMEs in the field of training could be a very great help, especially since it would enable us to understand why some small enterprises are able to adopt 'atypical' behaviours, that is training policies that are not normally very widespread in similar firms. An example of this type of approach is given in the work of Bel and Rosanvallon (1990) and Rosanvallon (1990). These authors begin by pointing out that *new training policies in SMEs* do not come about by chance but are very much based on *internal factors* or *external management* mechanisms that facilitate them.

For the former, note will be taken of the enterprise's history, the manager's personality and his ability to set a strategy ('in 2/3 of units studied, training innovation goes hand in hand with the arrival of a new manager'). Analysing innovating initiatives in SMEs in the Rhône-Alpes region, they in turn recognise that, far from ruling each other out, *formalised training* and *training incorporated into the work situation* are complementary, since innovation is an expression of the abil-

ity to formalise needs and of the specific methods of implementation: 'the most innovative enterprises recognise the limits of training on the job, especially its ability to ensure mastery of new, more complex working situations. They make greater use of formal training in the form of courses with a theoretical content' (Bel and Rosanvallon, 1990: p. 65). It is true, the authors add, that measuring the training effort in terms of courses shown in official returns (e.g. the famous 24.83 in France) does not make for a complete appraisal of the training effort, but the small amount of formal training generally shown for SMEs in national and European statistics 'is revealing of real or potential major imbalances between the content of the training policies deployed and what is needed to cope with the changes that are taking place' (p. 42).

So far as *external factors* are concerned, Rosanvallon (1990), like many others, puts particular stress on the emergence of a large number of 'new players and training skill networks', including local authorities, private companies providing consultancy and assistance with training, sundry agencies, etc. In this sense, 'the emergence of innovating training practices forms part of a wider process of integrating SMEs-SMIs into external skills networks providing aid and assistance, particularly in training', which must be seen alongside 'the rise and development of new profiles of entrepreneurs, the recruitment or arrival of engineers and managers who remain in contact with their old networks' and also alongside the current trends in the ways SMEs-SMIs articulate with large industrial groups (Bel and Rosanvallon, 1990: p. 82).

Finally, it is clear that 'the establishment of new systems of apprenticeship and skill production' cannot be reduced to ad hoc interventions targeted on enterprises alone. Innovatory schemes are of necessity complex and need to deploy a larger number of players using more diverse methods of training. Without a doubt, 'such many-sided and varied reshaping' is, potentially at least, more appropriate to the specific nature of SMEs-SMIs because of its modular nature and greater integration 'between the organisation of courses and experimentation with new working methods, between training and needs analysis, between training and production within the enterprise...' (Bel and Rosanvallon, 1990: p. 85), but it also requires overall consideration to be given to the institutional machinery of vocational training, as can at present be seen in most EU countries.

5.4 Towards new forms of regulation...

It is not our purpose here to go back over the many examples of the reform of national continuing vocational training structures examined in detail in outstanding publications (e.g. Cedefop, 1983, for the structure of the systems, and Aventur and Möbus, 1999, for a study of their recent dynamics). It seems to us more interesting to bring out the main trends and current changes of course that may augur well for the future development of vocational training in SMEs. We shall look here at three in particular: firstly, the present swing of enterprises towards skill mobilisation; secondly, the ways of identifying, validating and accrediting informal apprenticeships; thirdly, the debates on technological and organisational innovation for a training appropriate for SMEs.

5.4.1 The shift towards a 'skills' logic: between individualisation and institutionalisation

For a number of years now, there has been a marked trend in most European countries to build enterprises' competitiveness on the 'mobilisation of skills'. Clearly, this is not something unique to SMEs. One might even say that it is inspired more by the technologies of Human Resources Management common in large enterprises. But the notion of 'skill' carries with it three ideas that are very close to the models of professional competence and status validation currently encountered in SMEs.

Following the skills logic, first of all, the specific command of work situations takes priority over both the trade-related systems of recognition that are structured by professional relationships (as in the old British corporatist tradition), over diplomas and theoretical knowledge (as in the French-style institu-

tional, statist control), over the jobs or positions held (as in bureaucratic organisations) or over socially incorporated knowledge (as in the Italian forms of local regulation).

Secondly, looking at training, as A. Vinokur notes, the skills logic corresponds to a requirement for 'downstream piloting' of apprenticeship systems, a piloting 'characterised by a separation of the skill transmission function from the certification function' (quoted by V. Merle, 1997: p. 49). From this point of view, the process of apprenticeship is less important than the result, that is the command of work situations in all their complexity. However, SME managers and especially VSE managers who are their caricature are saying nothing different: 'training takes place in the enterprise itself' and the use of professional know-how can be validated without any formal training or instruction or even diplomas (Bentabet et al., 1999). Moreover, in the British NVQ system, often held up as an example of the 'skills' approach, apprenticeship courses and their content are not specified.

Thirdly, the recent theoretical widening of the concept of skill to include social and relational know-how may be applied to SMEs in traditional commerce and service activities (sales, catering, accommodation, etc.).

Some critical analysts have said that the rise in the concept of 'skill' should be seen in parallel with the weakening of the 'qualification paradigm' (Rainbird, 1995: p. 246), which was based on strong professional, institutional or societal regulation (on the British, French or German models)[90]. In fact, it appears at a time when the traditional collective regulations in the field of work and training are in crisis and the small enterprise model is, according to some, becoming established as an organisational alternative to the rigid professional relations of the Fordist era. In plain terms, in an area where trade unions are so little involved and where SMEs have such reservations about initiatives taken by the State, the skills logic could be all the more important for assuming a weakening of the wage relationship and its conventional framework and an individualisation of training.[91] There is a whole series of articulations here that need to be studied and debated, while not forgetting the dangers that V. Merle refers to as 'tendential' in the European Commission's *White Paper* (1995), those of a 'free market in skills [where] only the individual and his skill remain' (1997: p. 42) with no other form of regulation than the short-term needs of enterprises.

In this extreme case, there would be the risk of excessive individualisation resulting in desocialisation, that is a failure to take into account the collective contexts in which vocational skills are acquired and, ultimately, quite simply a return to elitist mechanisms (exclusion of individuals from the labour market, aggravation of the rifts between SEs and LEs, dualisation within the SME sector). That is why we must be attentive to the new compromises built in each country between the various players on the labour and training markets, since the adoption of a skills logic would paradoxically require the adoption of strong institutional norms, be they inspired by the State or regional institutions (as in the United Kingdom, France or Spain) or born out of collective bargaining between the social partners (as in Germany).

This is how we must understand the *gradual hybridisation* of the new CVT systems being built in most EU countries. In the United Kingdom, for example, where the edifice of TECs and LECs inspired by a liberal, decentralised concept and powered by the market

[90] "To speak of qualification', Rainbird says of the British case, 'is to speak of the role of skilled workers and their trade unions in the enterprise' (workplace) (1995: p. 231).

[91] Such individualisation of training can in fact already be seen in the concept of 'co-investment' that is emerging in several EU countries and which involves a financial sharing between the individuals in training and their enterprise or the State to adjust to new forms of employment (training partly in leisure time in Denmark and Germany, 'Youth Credit' in the United Kingdom). It is also explicitly suggested in the concept of 'individual right to training', which would operate as a system of credit throughout working life, as recently proposed by J. Delors (1999: p. 5) as part of the reform of the French CVT system.

('market-led training system': Parker, Vickerstaff, 1996: p. 251) may be combined with a highly voluntaristic action by the State resulting in a kind of 'organised laissez-faire' (Bouder, 1999: 387). Similarly, the guidance and organisation of NVQs at national level can adapt to programmes of support for individuals (*Youth Credit, Career Development Loans*) or for enterprises to enable them to invest in human resources (*Investors in People*). Likewise, too, the leadership of large local enterprises on TECs can coexist with the quest for new balances that will allow the specific nature of SME needs to be recognised by the establishment of ad hoc committees and even a programme adopted in 1995 (*Skills for Small Business*). In France, where the skills approach is not really institutionalised as a tool for human resources management, but is recognised as an individual right ('skill balances'), the Ministry of Education (Education Nationale) is still the dominant player for certification. The establishment of machinery for *validating vocational experience* and of *Vocational Skill Certificates (Certificats de Qualifications Professionnelles – CQP)* have however helped to get the training role of enterprises recognised and the power to oversee and evaluate employment and training reference systems opened up to other players (on this point see Feutrié, 1997). There are many other examples of new combinations of players accompanying the progressive diversification of systems of qualification and forms of certification.

5.4.2 Recognition and validation of professional or informal experience

Another movement is emerging that could prove favourable to the development of training in SMEs. We are referring to the policies adopted by the EU, in particular through the *Leonardo da Vinci* programme and illustrated by the *White Paper* (European Commission, 1995) concerning systems for the identification, validation and recognition of informal experience for improving transparency and skill transfer[92]. It is not our place here to go into the methodological and epistemological debates to which such a set of measures has given rise, or even to list the current studies or international comparisons on the subject. These are all described and discussed at length by Bjørnåvold (1997-a; -b; -c; -d).

While not adopting a specifically SME-centred stance, he reviews the context that encouraged the emergence at European level of measures for the *validation* of skills acquired outside the formal education and training system alongside the *traditional certification procedures* based on formal education. He refers both to the calling into question of the social and professional value of qualifications in rapidly changing production systems, 'the emergence of new organisational perspectives and practices in enterprises, requiring a more diversified approach to questions of apprenticeship and skill formation', the development of training throughout life, and especially the changes that have taken place in the operation of labour markets where internal recruitment practices (which presuppose at least a relative transparency of professional experience) have weakened while the strategic importance to enterprises of looking to external markets has increased, which implies taking a closer interest in the formal and especially the informal or 'invisible' skills of candidates for recruitment (Bjørnåvold, 1997-c, pp. 5-6).

We can see here that the first and fourth arguments are the ones most in line with the SME issue, firstly because SMEs (especially the smallest among them and in some national contexts more than others) are always quick to question the value of qualifications produced by school systems, and secondly because more intensive use is made of external markets in SEs than in LEs. While the approaches to the validation of non-formal experience are appropriate to the ideas of SMEs, they are nevertheless limited, not only

[92] A number of benchmarks may be quoted in the European Commission's guidelines for identifying and validating existing and/or informal experience: the project launched in 1993 for an 'individual skills portfolio' (Individual Portfolio Project), the idea of a Personal Skills Card put forward in the *Livre Blanc* (1995), the EU Skills Accreditation system and the 'Euro-validation project' conducted in five countries as part of the Leonardo programme (on this point see Bjørnåvold, 1997-c, Chapter 4).

636

by their ability to formalise implicit skills[93], but especially by their sociology, that is the cultural norms they carry. In other words, going back to the three aspects suggested by Bjørnåvold (1997-d), while *the identification* of non-formal skills is going well methodologically and scientifically, and while their *validation* requires top-level decision-making authorities at European level, their *recognition* depends for its part on social values at national level and in the enterprise.

As Bjørnåvold (1997-d) suggests, a discussion of instrumental approaches (their 'validity' and 'reliability') must not neglect the questions of their *acceptability* and *credibility*, which are sociological in nature. In a way, 'creating a system for recognising non-formal experience is tantamount to changing the social definition of skills' (idem: p. 43). We know in fact that any national or European system of this kind adopted may very well not be followed by SMEs, either because they lack the means to do so or out of ideological reluctance: despite making much of their specific contribution to the construction of skills, they generally rely on the legitimacy conferred by official certification arrangements. Moreover, they have historically been kept away from the legitimation authorities (whether or not central)[94]. This, at any rate, is what emerges not only from a historical analysis of CVT systems in most European countries, but also from how they have developed, leaving SMEs little say in the most socially recognised certification and validation processes. Hence the dilemma, never completely resolved, in the various national or European political guidelines, between a *centralised strategy* that seeks to make systems for the recognition of skills homogeneous and give them greater credibility, but which runs the risk of being far removed from specific SME practice, and a *decentralised strategy* ('from the bottom up') which, while offering pragmatic solutions and a degree of flexibility, risks lacking legitimacy and being too piecemeal.

Despite these reservations, SMEs could well be a crucial arena today as well as a potential laboratory for experimentation and for building public policies for the recognition of non-formal skills.

5.4.3 Technological and organisational innovations: mirages or a way to make SME training practices more dynamic?

While considering the questions raised above, we should not at the same time overlook the many pedagogical innovation and experimentation schemes aimed at making continuing vocational training more appropriate for small enterprises, be it by using the new distance learning technologies or by organising training in networks or enterprise or businessmen's clubs on a regional or branch basis. This is a vast new field for the systematic observation of 'best practice', so we shall merely mention it here.

5.4.3.1 Use of new education technologies: hopes and open questions

Subject to the distinction between employee training and manager training, the application to SMEs of *new education technologies* (modular, individualised, multimedia, assisted self-instruction, 'open and distance' learning) has already been widely discussed in the European literature. Some see their flexibility and accessibility as helping to spell the end of the traditional model and therefore as being better geared to SMEs' needs. However, this new multifaceted paradigm, which already has its monographs, its Netherlands-based European Federation (FFFOD), its 'abundance of local initiatives', its websites, etc. (*Actualité de la Formation Permanente*, 1998) is still far from being sta-

[93] Hence the relative failure of the application of the 'skills portfolio', especially in the context of transnational worker mobility.

[94] Hence their difficulty in participating directly in such bodies as the British *TECs* or the *National Council for Vocational Qualifications*, set up in 1986, in the French institutional structures for *validating professional experience* or for constructing the *Certificats de Qualification Professionnelle*, which is organised on a branch basis where large enterprises predominate (on this point see Feutrié, 1997) or in Spain, where the *Repertorio de Certificados de Profesionalidad* is compiled jointly by the Ministry of Labour and the Ministry of Education.

Box 5.5: Commitments to Develop Vocational Training in France (EDDFs - *Engagements de Développement de la Formation en France*) in France

Created in 1984, the EDDFs are intended for enterprises that are under a statutory obligation to take part in the development of vocational training and which increase the quantity and quality of their training effort as part of a programme extending over several years. The aim is to support projects to raise the level of employees' qualifications and skills as required by technological and economic change.

Aid is granted in particular to small and medium-sized enterprises (be they self-employed, or group subsidiaries). Thus, 90% of enterprises involved in EDDFs have fewer than 50 employees. Two thirds of trainees are manual and non-manual workers.

Enterprises' training plans must form part of a development strategy. They are for the most part negotiated at the level of occupational branches, where problems of modernisation and competitiveness can be raised globally and coherently; they also cover a period of several years so that training schemes can take a medium-term view. They can also be decided on a territorial basis, with interprofessional organisations, for example, for local development purposes. For the most part, EDDF framework agreements are negotiated between the State and one or more trade organisations; however, employee representatives ensure they are properly implemented through their involvement in supervisory committees.

This scheme is currently under review. It could be improved in three ways: by giving greater place to local initiatives (30% of credits are still managed at national level) while preserving the benefits of branch-level negotiation; by expanding the scope of EDDFs to include experiments in e.g. internal training and skills validation; and by simplifying procedures so as to extend the scheme to enterprises normally bypassed by public intervention, especially small enterprises that are not group subsidiaries.

Source: Ministry of Labour, Employment and Vocational Training, Les Outils du changement du travail (aides au conseil, aides à l'action) - Guide.

ble. Moreover, it does not in itself allow SME needs to be clarified, neither does it allow us to resolve the difficult (impossible?) transition between the traditional concept of training in SMEs, where the transmission of skills symbolically requires the *proximity* of trainer and trainee, and the forms of *distance* learning encouraged by new technologies. Finally, rather than being an instigating factor, the use of the new 'training engineering' based on information and communications technologies is never really anything more than an effect of new production and skill management practices, themselves a response to innovative behaviour shown by only a minority of SME managers (Fournet and Bedin, 1998). Most of the time, the training dimension remains a determined variable. It is 'the expression and lever of more global changes affecting methods of workforce management and enhancement in SMEs-SMIs' (Hillau, 1987).

5.4.3.2 'Networks': genuine alternative, magic formula or additive?

The findings of research into the effects of inter-enterprise organisations on their training dynamics seem less uncertain. Hence, political decision-makers have come to think that the best way to influence SME training behaviour would be to apply pressure to the existing forms of cooperation, be they in the form of customer/supplier relations, partnerships, groupings, associations, clubs or various kinds of interrelating networks. That is the lesson to be drawn, for example, from observation of Italian-style industrial districts or French-style localised production systems, but which is also provided by some evaluation work on the United Kingdom's TECs and LECs. Many of these aspects have already been mentioned (Chapters 2.1, 2.2, 2.3 and this fifth section). We shall now concentrate

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on the essentials, always remembering that these selected configurations are not all based on the same rationale: some are the product of a historical heritage, others are constructs or artefacts born of changing production systems and a political or entrepreneurial desire to modernise SMEs.

In Italy, local systems of inter-enterprise co-operation and competition have a training role for SME employees and bosses at the same time as collectively incorporated vocational training operates as an engine of entrepreneurial dynamics (Capecchi, 1995), and the recent development of external networks (Castaldi, 1999) or the present CVT reforms (Treu, 1997) must be analysed in the light of this initial model, either as challenging it or as continuing it with adjustments.

In the French example, the work on local development and localised production systems must be mobilised, such as the work by Laget (1994) with his 'small enterprise', 'local' and 'training' triplet, or that by Bel (1992) which, taking the mythical example of the Arve Valley, shows how the relations between the different players help to develop the skills of the workforce in a system of SMEs specialising in screw-cutting.

Another example is the in-depth appraisals of TECs and LECs made by Vickerstaff and Parker (1995). They stress the importance of inter-enterprise networks or of existing forms of cooperation between enterprises and local, regional and professional bodies in getting LECs to make greater headway with SMEs.

However, enterprise networks and the externalisation of training into networks are not a panacea for SMEs. In Germany, for example, Lehmann and Speckmann (1993) show how difficult it is to make a success of 'artificial' projects for networks of cooperation between small enterprises and public and private sector institutions.

Inter-enterprise relationships may, it is true, help to loosen the constraints on enterprises; agreements may, in part at least, take the place of market forces and widen SMEs' temporal horizons: investment in manpower and training can then be seen as a medium-term thing (Verdier, 1990-b: p. 300).

There are however other possibilities, involving adjustments or improvements to institutional arrangements, following different national traditions that are at least as important as the major European trends and convergences described earlier. Such is the case, for example, of the French Government's contract-based training and employment assistance schemes like the *Engagements de Développement de la Formation Professionnelle* (EDDFs) [Commitments to develop vocational training in France] that have in many cases enabled the priority targeting of public action on small enterprises and the reality of their situations to be reconciled with branch and/or regional negotiations and provided a strong incentive to incorporate training into a medium-term strategy (Box 5.5).

But does such an exemplary arrangement not always favour those enterprises that are the best equipped to find 'a compromise between public norms and SME practices?' Verdier (1990-b: p. 309) asks. The institutional arrangements to encourage training have no more succeeded in reducing the inequalities of SME access to training up until now than the networks themselves manufacture training within SMEs.

6. Conclusions

The stance adopted in this concluding chapter is not entirely prescriptive: firstly because the breadth and complexity of the ground explored defies all simplification; secondly because we are strangely lacking in perspective and lucidity as we emerge from this bibliographical confusion; and thirdly because the purpose of this dossier was not so much to analyse employment and training policies in the EU and to make recommendations as to examine the research into SME employment and training practices. The political dimension has not been forgotten for all that, especially when the subject is broached by the work quoted, but also because we are trying here to present the findings that appear to us

to be the most significant and the most useful to decision-makers without stepping into their shoes ourselves.

Dealing with the question of SMEs at European level is in many ways a challenge. Despite the Community being unanimous in its sensitivity to the decisive role they play in economic growth and competitiveness, small enterprises are still approached in a great variety of ways in different countries, both as regards industrial, employment and training policy, and in the field of research. On the one hand, their very definition, not to mention their economic weight, varies considerably from one country to another. On the other, their unequal place in national traditions means that research work must always be contextualised. Finally, with the exception of Germany and Italy, SMEs have almost never been a *scientific subject* in their own right for the academic world.

Despite these three difficulties, we know that SMEs have in recent years become a preferred focus for transnational policies that have not been content with designing *funding* programmes for enterprise creation, plant modernisation, research and development and technological innovation, but have sought to draw up guidelines for *investment* in human resources, now considered the major source of competitiveness. At the same time, they have become a new field of research, with a large quantity of empirical work, national or comparative, theoretical or geared to decision-making.

We shall not go back over the reasons for this relatively recent interest in SMEs. Mostly, they have to do with their expansion in service economies, the reconfiguration of production systems marked by the crisis in large productive concentrations and by the simultaneous redeployment of small structures that are more agile and more capable of meeting a demand that is increasingly unstable and diversified. Let us not forget, either, the persistence of unemployment in Europe that has made SMEs 'harbingers of hope'.

These developments are however heteronomous, and even if the generic model of the small independent family enterprise is still in the majority (especially in the countries of Southern Europe), it is tending to diminish in favour of small structures caught up in networks of dependency or multiple interdependency with other small enterprises or large groups. These changes must be the starting point for tackling the employment and training behaviour of SMEs, which is what most European research generally does.

6.1 The employment practices of SMEs

❑ On the first field of investigation ('SMEs and employment'), research work into *the relationship between enterprise creation and job creation* is the first to be mobilised. Contrary to what is commonly thought, it shows very convincingly that such a relationship is not obvious, firstly because the proportion of newly created enterprises surviving for more than five years does not generally exceed 50%. Secondly, the rapid growth in those enterprises' workforce is a relatively marginal phenomenon subject to a number of conditions that the defenders of enterprise creation often overlook. These include the *sector* or *branch*, the *territorial bonds*, *the creator's previous career path*, the *strategic stance* adopted (cf. Box 3.1), and, above all, *the size of the enterprise when first created* (the potential of newly created enterprises to create jobs increases with the number of employees on start-up). There is also some uncertainty about the number and quality of the jobs created by small 'high-tech' firms. In short, in France at least, while there are more *pure creations* than *resumptions* or *transfers of activity*, they also create fewer jobs. Finally, enterprise creation does not appear to create more jobs than existing small firms do.

Hence the dilemmas surrounding political intervention to encourage or accompany enterprise creation: apart from administrative simplification ('one-stop shops') (ENSR, 1997: p. 102), should we be arguing for *undifferentiated* aid for all enterprise creation (by creating an 'enterprise culture', for example), or rather for measures *targeted* on particular small enterprises? In that case, what would be the criteria for targeting? 'Assisting employment through growth, or rather assist-

ing enterprise growth through skilled labour' (Semlinger, 1995: p. 2)? We now know that financial aid to creation alone is not enough, but that it must be accompanied by management support to avoid creators starting out with too small a workforce. In the end, should we be assisting enterprise creation or 'caring for the stock of existing SMEs' by making more counselling available, since paying attention to SE creation is justified less by their employment potential (which is frankly uncertain) than by the problems resulting from their being too small and the obstacles to their development (Semlinger, 1995: p. 21)? And to round off, should we remain with these dilemmas or construct complementarities between all these options?

❑ Another widely held opinion that was to be tested scientifically and in the end proved more difficult and more complex to substantiate than expected was the claim that 'SMEs create the most jobs in our societies'. More difficult because the speed of the changes taking place in production systems today makes it increasingly hard to identify the *specific* contribution SMEs make to the creation and growth of employment. More complex, too, because the concepts of 'creation' and especially 'job/employment' are themselves being called into question. On this point, there seems at present to be a tremendous distance between the certainties of common thought (for which there is no doubt that half of Europe's working population with a job are currently employed in SMEs) and the barrenness of the methodological debates that inevitably follow when this is contrasted with the research. The overall movement of the latter is relatively clear, however:

❑ It is true that the proportion of jobs in SMEs has been on an upward trend in most EU countries for a number of years. One might for all that question the *specific* role of SMEs in generating new jobs, especially since the accounting methods used to make the transition from 'stocks' to 'flows', from static to dynamic or longitudinal data, are unreliable and controversial. The main question raised here is whether the job creations observed are endogenous or exogenous. Should they be counted as creations or as the fruit of internal growth within small enterprises? Must they not rather be interpreted, at least in part, as a consequence of the restructuring taking place in large enterprises? What emerges from all this in any case is that the behaviour of SMEs as regards employment cannot be studied in isolation from an observation of what is happening in large enterprises.

❑ Moreover, while SMEs create jobs, they also destroy a lot, and this is not without significance. The example of the 'American job-creation machine' and the phenomenon of 'creative destruction' invoked by Schumpeter have often made people think they were right to consider job turnover an essential feature of a dynamic economy, a contribution to structural change and the responsiveness of the labour markets. There is, however, also a suspicion that, at a high level, job turnover generates and amplifies processes whereby the labour force, especially the frailest sections of it, becomes more insecure. It may also prevent small enterprises and workers from making the best investment in training, the former giving priority to outside recruitment (flexibility) instead of stabilising their workforce and using internal flexibility, the latter by withdrawing from vocational training and work, sometimes at the cost of exclusion, and instead going for longer and more 'noble' forms of training or towards enterprises with more stable jobs, sometimes at the risk of being overqualified.

❑ Then, not all SMEs create employment, only a small number do so. Hence the crucial question: which ones create the most jobs and, more generally, what are the key factors determining employment behaviour in the specific case of SMEs? On this point, research shows that the size variable is not the most important, but that it would benefit from being combined with other variables such as *sector*, the *sociological profile of the managers*, and, more important still, the *competitiveness strategies* adopted by the managers. This is the line taken by a series of recent studies in France, the United Kingdom and Germany in particular.

In most cases, SME performance in the field of employment is then associated with

product-service/market pairs based on differentiation or even specialisation. It may however also be associated with a particular positioning of small enterprises in the value chains, enabling them, for example, to avoid being too dependent on distribution circuits or having to fight competitively on mass markets, seeking instead direct contact with the final customer. From a scientific point of view, the advantage of such approaches is that they encourage a transdisciplinary stance combining industrial economics, management and sociology. From a methodological point of view, they are based on the quest for complementarities between purely statistical studies and more empirical, qualitative investigations and monographs, the former offering possibilities for generalisation and framework data useful to decision-makers, the latter yielding models closer to reality but less easy to use because of their complexity. They may nevertheless serve to improve the former.

Other approaches again allow this analytical segmentation of the variables to be avoided by integrating employment practices into the productive combination as a whole by means of '(holistic) enterprise' or 'labour management models'.

❑ Over the last few years, however, another question has come to the fore in the relationship between SMEs and employment, that the issue is not only the number of jobs but also the forms of employment created in SMEs. What, in particular, about their durability, their stability and their content? Again, such approaches require articulations between disciplines concerned with *employment* and those focusing on *work*. Bringing these disciplines together is more than mere scientific debate. It opens the door to questions that might renew aid policies for the creation and development of employment in SMEs by making a connection with issues of *job and manpower quality*, that is qualifications and the construction of skills. This is the second subject tackled by our report.

6.2 SMEs and vocational training

Like the examination of research about employment, examination of that on SMEs and vocational training inevitably has a methodological prerequisite. The difficulty here has to do first of all with the impossibility of getting an overall picture at European level when there is such diversity of both institutions and practices rooted in 'heavy structures' and deeply anchored national cultures, and secondly with the complexity of the recent changes that have taken place in the education and vocational training systems of most EU countries. The lack of perspective here is obvious, especially with the main thrust of research in this field lying in attempts to assess the impact of the changes on SME training practices. Hence the impression that tracing the 'best practices' in both national and transnational policies and in enterprises themselves is sometimes substituted for the establishment of a corpus of scientific data that is sufficiently generalisable or reliable to guide decision-makers. From a methodological point of view, we also find a permanent tension between attempts to establish a statistical corpus, especially one where data can be compared at European level, and monographic investigations, which are more qualitative and more intensive but much less open to generalisation. Finally, the main contribution of research in this field seems to reside less in immediate and unambiguous answers to the questions put by decision-makers than in an effort to relativise what are sometimes over-sharp judgements on SME training practices.

What are the most significant points that emerge from all the work consulted?

First of all, while most research now tries to show up strong articulations (especially institutional ones) between *initial vocational training* and *continuing vocational training*, this distinction still seems very relevant for sounding out SME training behaviour. While in the former register they may be considered a key player in training and especially in getting young people into work[95], in the second they are more like 'extras'.

[95] It will be recalled that, with the exception of Denmark, Ireland, Finland, Sweden and the United Kingdom, small enterprises employ a higher proportion of young people (aged 15-24) than large enterprises (European Commission, 1998: pp. 102-103).

642

In the first case, it is not surprising to see research taking an interest both in the links between vocational training and the emergence of new types of employment and in the various attempts to bring school and (small) enterprises closer together. However, the training function of SMEs and their role in vocational integration now seem to be marking time in most EU countries, both because of the changes to the production apparatus and because of young persons' sociological development. There is then a great danger that we shall see a rift developing not only between SEs and LEs, but within the SE sector itself, a dualism between those capable of absorbing young people with medium to high qualification levels and the rest, the most numerous, that would be condemned to take on the most insecure people. That is why the role of public policies is absolutely central here in organising the labour market and rethinking the patterns of initial vocational training.

So far as continuing vocational training is concerned, most of the statistical data compiled at European level show what little use SMEs make of the most formalised forms of training. This deficit is moreover closely linked to the articulations between initial and continuing training in the various countries. It also shows that the training available and the normative models adopted most of the time by public policy or training intermediaries are inadequately matched, even though it is they who are responsible for making the link between enterprises' needs and institutional guidelines.

A lot of work then tries to identify the main factors determining SME demand for continuing training. It again emerges that, contrary to the interpretations given by statistical corpuses, the effects of size and sector must not be given too much weight. Other factors are involved, like strategic guidance and modes of production, or the sociological profile and previous career path of the managers. Other research tries to demonstrate SMEs' *ability to adapt* outside the formal models of continuing training. Not only do these allow the measurement tools traditionally used to be put into perspective, but they also show that there are many different forms of apprenticeship and that it is now high time account was taken of them. Hence the current work on the *recognition and validation of occupational or non-formal experience* converging with the processes of individualisation of training, the development of skills logics, the rediscovery of the notion of 'trade' (especially in craft activities) and the many experiments in new teaching technologies and networking as a way of disseminating CVT in SMEs. In any case, not all SMEs are incapable of appropriating the most codified forms of training. Some even turn out to be providing at least as much training as large enterprises (this is true of the SEs and especially the *inserted or integrated VSEs* analysed by Bentabet et al., 1999)[96], if not more (on this point see Lange and Gros, 1987).

In the field of public CVT policies, we have for several years been seeing a clear concentration on the needs of SMEs. New ways of structuring the field are appearing in most countries, generally based on a variety of combinations of several levers, depending on the national tradition, summarised by Aventur and Möbus (1999) as follows:

- a necessary arbitration between a statutory funding obligation on employers (as in France) and a laisser-faire where the employer is free to choose (as in the United Kingdom, but also in Germany, Austria, Luxembourg, Sweden and Portugal), with a whole series of 'intermediate' regulations involving limited constraints, flanked by collective agreements (as in Italy, the Netherlands or Denmark) or tripartite accords (as in Spain);

- the adoption of public financial incentives to enterprises in the form of subsidies and tax credits in about half the countries of the EU, including: France (with the EDDFs, see Box 5.5), but also Germany, the Netherlands and even the United Kingdom and Ireland. In Sweden and Denmark in particular, these aids allow a jobseeker to be recruited and trained to replace an employee who has gone away for training;

[96] The same reasoning may also be applied to the employment policies of 'integrated' SEs and VSEs.

- subsidies to support and structure the supply of training (especially in the Nordic countries), but also and especially incentives to improve the quality of training (ISO 9000 standards) and regulation through the introduction of vocational certificates like the NVQ in the United Kingdom, directories of vocational certificates in Spain, Portugal, etc.

- finally, the establishment of organisations created specifically to mediate between (small) enterprises, the public authorities and employees, such as the United Kingdom's TECs or the *Organismes Paritaires Collecteurs Agréés* in France.

True, none of these schemes and arrangements will solve every problem, especially the main paradox of SMEs when it comes to continuing vocational training: *those that have most need of it seek it the least*. Hence the importance of increasing empirical research into the factors that make 'reaching SMEs' easier (Vickerstaff and Parker, 1995) upstream of training actions and counselling. Hence the interest shown, too, in regionalisation (German researchers refer to the '*Regionalisierung der Regionalpolitik*' and '*Regionalpolitik von unten*' – Büchter, 1998), and in the diversification and transversality of actions (combining, for example, technological and/or organisational modernisation with training).

Nevertheless, we should not forget, either, that outside enterprise practice, continuing training ('throughout life') is also a matter of individual projects and that it could therefore be the subject of new research into 'employability'. This would have the merit of being deliberately at the crossroads between training, employment and mobility, between individuals and enterprises. A new field of inquiry could then be opened into the role of SMEs in the individual's career path, not only at the stage of initial training or starting the first job, but also in occupational change and mobility 'throughout working life'. But let us not try the reader's patience.

Bibliography

Abbott B.,1994. Training strategies in small service sector firms: employer and employee perspectives. *Human Resource Management Journal*, **4** (2), pp. 70-87.

Actualité de la Formation Permanente, 1998. *Dossier: formations ouvertes et à distance*, n° 156, September-October, pp. 37-91.

Agulhon C.,1994. *L'enseignement professionnel*, Paris, les Editions de l'Atelier, «Portes ouvertes», 265 p.

Aiginger K., Tichy G., 1984. *Die Größe der Kleinen. Die überraschenden Erfolge kleiner und mittlerer Unternehmungen in den 80er Jahren*, Vienna.

Alex Laszio, 1997. *Entwicklung der Berufsausbildung in Deutschland*, Bielefeld, Bertelsmann Verlag, 75 p.

Alt C., Sauter E., Tillmann H., 1994. *Berufliche Weiterbildung in Deutschland. Strukturen und Entwicklung*, Berlin and Bonn, BIBB / Force, W. Bertelsmann Verlag GmbH & Co, 222 p.

Aragón Sánchez A., Sánchez Marín G., 1998. *Análysis contingente de la gestión de recursos humanos en las pymes: un estudio empírico*, Universidad de Murcia, Documento de Trabajo n° 3, Departamento de Economía de la Empresa, 32 p.

Aragón A., Sanz V., 1997. La problemática de la gestión de recursors humanos en la pequeña y mediana empresa. *In*: R. Valle Cabrera, ed. *Los recursos humanos como factor de competitividad*, Cadiz, Servicio de publicaciones de la Universidad de Cadiz, pp. 43-76.

Ardenti R., Vrain P., 1995-a. Les PMI: incertitude économique et anticipations d'emploi. *La Lettre du CEE*, n° 40, 12 p.

Ardenti R., Vrain P.,1995-b. Les dirigeants de PMI: un acteur-clé. *La Lettre du CEE*, n° 41, 12 p.

Ardenti R., Vrain P., 1998. *Relations inter-entreprises, profil des dirigeants et gestion de l'emploi dans les PMI*, Paris, Centre d'Etudes de l'Emploi, duplicated, 282 p.

Ardenti R., Vrain P., 1999. De nouveaux profils de dirigeants dans les PME indépendantes. *In*: B. Courault and P. Trouvé, eds. *PME et emploi. Nouvelles approches, nouveaux enjeux*, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi / Dares, forthcoming.

Armington C., Odle M., 1982. Small business – How many jobs? *Brookings Review*, Winter, pp. 14-17.

Arnould L., Abonnat A., 1999. *Aides aux PME / PMI dans les secteurs des nouvelles technologies de l'information et de la communication*, Clermont-Ferrand, Institut de la PME, duplicated, 39 p.

Atkinson J., Storey D., 1994. Small firms and employment. *In*: J. Atkinson and D. Storey. *Employment, the small firm and the labour market*, London, Routledge, pp. 1-27.

Atkinson J., Meager N., 1994. Running to stand still. The small firm in the labour market. *In*: J. Atkinson and D. Storey. *Employment, the small firm and the labour market*, London, Routledge, pp. 28- 102.

Aucouturier A.-L., 1994. Du chômage à la création d'entreprise. *Travail et Emploi*, n° 58, 1/94, pp. 9-24.

Aucouturier A.-L., 1997. *Les chômeurs créateurs ou repreneurs d'entreprise, bénéficiaires d'une aide publique. Exploitation complémentaire de l'enquête SINE auprès des entreprises créées ou reprises au premier semestre 1994*, Crédoc, coll. des Rapports, May, n° 177, 130 p. + annexes.

Aucouturier A.-L., Cealis R., Chapail C., 1996. *Itinéraires du chômeur créateur d'entreprise*, Paris, Ministère du Travail/ Documentation Française, coll. 'Travail et Emploi', 325 p.

Audretsch D.B., 1991. New firm survival and the technological regime. *Review of Economics and Statistics*, August, **60** (3), pp. 441-451.

Audretsch D.B., 1993. New-firm formation activity in US manufacturing. *In*: Karlsson C., Johannisson B., Storey D. *Small Business Dynamics. International, national and regional perspectives*, London, Routledge, pp. 40-56.

Auvolat M., 1982. *La dynamique des entreprises artisanales du bâtiment*, Lyon, Economie et humanisme, 71 p.

Auvolat M., Lavigne J.-C., Mayere A., 1985. *L'artisanat en France, réflexion générale et prospective*, Paris, La Documentation Française, 291 p.

Aventur F., 1999. France *In*:: F. Aventur, M. Möbus, eds. *Formation professionnelle initiale et continue en Europe*, Paris, Magnard / Vuibert, enlarged edition, pp. 191-219.

Aventur F., Möbus M., Philippe C., Dallaporta M., 1998. *La formation professionnelle continue dans les entreprises françaises en 1993 – Résultats d'une enquête européenne*, document du Céreq, n° 133, série 'Observatoire'.

Aventur F., Campo Ch., Möbus M., 1999. Les facteurs de développement de la formation continue dans l'Europe des quinze. *BREF-Céreq*, n° 150, February, 4 p.

Aventur F., Möbus M. (ed.), 1999. *Formation professionnelle initiale et continue en Europe*, Paris, Magnard / Vuibert, enlarged edition, 550 p.

Aydalot P., 1986. *Les milieux innovateurs en Europe*, Paris, Economica.

Bade F.-J., 1985. *Die Wachstumspolotische Bedeutung kleiner und mittlerer Unternehmen*, TU Berlin, Wirtschaftswissenschaftliche Dokumentation 1985, Diskussionspapier Nr. 100, Berlin.

Bagnasco A., 1977. *Tre Italie. La problematica territoriale dello sviluppo economico italiano*, Bologna, Il Mulino.

Bagnasco A., 1985. La costruzione sociale del mercato: strategie di impresa e esperimenti di scala in Italia. *Stato e Mercato*, n° 13, April.

Bagnasco, 1988. *La costruzione sociale del mercato: studi sullo sviluppo di piccola impresa in Italia*, Bologna, Il Mulino.

Bagnasco A., Sabel Ch. F., 1994. *PME et développement économique en Europe*, Paris, La Découverte, 201 p.

Bapst C. (coord.), 1989. *L'investissement formation dans les PME. Compte-rendu de travaux de la conférence française Eurotechnet, Annecy, 19 et 20 mai*, Noisy-le-Grand, ADEP Editions, 168 p.

Baldwin J., Chandler W., Le C., Papailiadis T., 1994. *Strategies for success: a profile of growing small- and medium-sized enterprises (GSMEs) in Canada*, Ottawa: Statistics Canada.

Baldwin J.-R., 1995. *L'innovation: la clé de la réussite des petites entreprises*, Division des études de l'analyse micro-économique. Statistique Canada et Institut canadien des recherches avancées. Projet sur la croissance économique, Papier n° 76, February, 27 p.

Baldwin J.-R., 1998. Were small producers the engines of growth in the Canadian manufacturing sector in the 1980s? *Small Business Economics*, 10, pp. 349-364.

Baldwin J.-R., Picot G., 1995. Employment generation by small producers in the Canadian manufacturing sector *Small Business Economics*, vol. 7, october, pp. 317-331.

Baron C., Bureau M.-C., Nivolle P., 1992. *L'usage par les entreprises des contrats de retour à l'emploi*, Dossier de recherche du CEE, n° 47, November, 115 p.

Baroin D., Fracheboud P., 1983. Les PME en Europe et leur contribution a l'emploi. *Notes et Etudes documentaires*, n° 4715-4716, La Documentation Française, 29 April, 144 p.

Baudry B., 1994. Segmentation du marché du travail et segmentation du marché de la sous-traitance: une étude de la firme réseau. *Revue d'Economie Politique*, n° 104, January-February 1994.

Baudry B., 1995. *L'économie des relations inter-entreprises*, Paris, La Découverte, Repères, n° 165, 125 p.

Bauer M., 1990. Pas de sociologie de l'entreprise sans sociologie de ses dirigeants. *In*: R. Sainsaulieu, ed. *L'entreprise, une affaire de société*, Paris, Presses de la Fondation Nationale des Sciences Politiqes, pp. 153-157.

Bauer M., 1993. *Les patrons de PME entre le pouvoir, l'entreprise et la famille*, Paris, InterEditions, 254 p.

Baunach M., Schmude J., 1998. Die Neugestaltung der Unternehmenslandschaft in den neuen Bundesländern: eine regionalwissenschaftlich-orientierte Analyse der ersten «Nach-Wende-Jahre». *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 243-262.

Becattini G., ed., 1975. *Lo sviluppo economico della Toscana*, Florence, IRPET.

Becattini G., 1978. The development of light industry in Tuscany: an interpretation. *Economic Notes*, n° 2-3.

Becattini G., 1979. Dal settore industriale al distretto industriale. Alcune considerazioni sull'unità di indagine dell'economia indu-

striale. *Rivista di Economia e Politica Industriale*. **5**, (1), pp. 7-21.

Becattini G., 1987. *Mercato e forze locali: il distretto industriale*, Bologna, Il Mulino.

Becattini G., 1992. Le district marshallien: une notion socio-économique. *In*: G. Benko, A. Lipietz, *Les régions qui gagnent. Districts et réseaux: les nouveaux paradigmes de la géographie économique*, Paris, PUF, pp. 35-55.

Becattini G., 1997. Totalità e cambiamento: il paradigma dei distretti industriale. Intervista. *In*: Belfanti C.M., Maccabelli T., eds. *Un paradigma per i distretti industriali. Radici storiche, attualità e sfide future*, Brescia, Grafo, Atti del Convegno, Brescia, 8-9 Nov. 1996.

Maccabelli T., 1998. *Distretti industriali e made in Italy. Le basi socioculturali del nostro svilupo economico*, Turin, Bollati Boringhieri, Collection Temi (79).

Beccarelli C., Perker H., 1991. PME-PMI: définitions et impact socio-économique. *Actualité de la Formation Permanente*, n° 114, September-October, pp. 33-37.

Bel M., 1992. La formation aide au développement local: quelles conditions d'efficacité? *Formation Emploi*, n° 40, 1992.

Bel M., Rosanvallon A., 1990. *La politique de formation dans les PME-PMI*, Grenoble, IREP-D, série «Rapports de recherche. 127 p.

Bell J., Murray M., Maddon K., 1992. Developing expertise: an Irish perspective. *International Small Business Journal*, 10, pp. 37-53.

Bellandi M., Russo M. (ed.), 1994. *Distretti industriale e cambiamento economico locale*, Turin, Rosenberg and Sellier.

Benko G., Dunford M., Heurley J., 1998. Districts industriels: vingt ans de recherche. *Problèmes Economiques*, n° 2 581, September, pp. 16-21.

Bentabet E., Michun S., Trouvé P., 1999. *Gestion des hommes et formation dans les très petites entreprises*, Marseille, Céreq, Etudes n° 72, 175 p.

Bentabet E., Marion I., Zygmunt C., 1999. *La formation professionnelle continue financée par les entreprises. Exploitation des déclarations fiscales des employeurs n° 24-83, Année 1996*, Céreq, Documents, n° 143, June, 32 p. + annexes.

Béret P., Dupray A., 1998. La formation professionnelle continue: de l'accumulation des compétences à la validation de la performance. *Formation Emploi*, n° 63, July-September, pp. 61-80.

Bernardi L., Trivellato U., 1994. Scolarità e formazione professionale nel Mezzogiorno: nuove evidenze da un'analisi dei flussi. *Economia e Lavoro* (3-4), pp. 1-34.

Berthier C., Parent M.-C., 1994. Créations, disparitions et restructurations d'entreprises: les effets sur l'emploi des PME. *Economie et Statistique*, n° 271-272, _, pp. 13-23.

Birch D.-L., 1979. *The job generation process*, unpublished report, MIT Program on Neighborhood and Regional Change, Cambridge, Massachusetts.

Birch D.-L., 1987. *Job creation in America: how our smallest companies put the most people to work*, New York, The Free Press.

Birch D.-L., MacCracken S., 1983. *The small business share of job creation: lessons learned from the use of longitudinal file*, unpublished report, MIT Program on Neighborhood and Regional Change.

Birch D.-L., Haggerty A., Parsons W., 1997. *Who's creating jobs?* Cognetics Inc., Cambridge, Massachusetts.

Bjørnåvold J., 1997-a. Une question de foi? Les méthodes et les systèmes d'évaluation des acquis non formels exigent des bases légitimes. *Formation Professionnelle*, September-December, n° 12, pp. 74-81.

Bjørnåvold J., 1997-b. Evaluation des acquis non formels: qualité et limites des méthodologies. *Formation Professionnelle*, Revue Européenne, September-December, n° 12, III, pp. 56-73.

Bjørnåvold J., 1997-c. Identification et validation des acquis antérieurs et/ ou non-formels. Expériences, innovations et problèmes, Cedefop Panorama, document de discussion, September, 62 p.

Bjørnåvold J., 1997-d. Reconnaissance et transparence des qualifications professionnelles; la voie à suivre, Cedefop Panorama, document de discussion, October, 49 p.

Blau P.M., 1970. A formal theory of differentiation in organizations. *American Sociological Review*, **35** (2), pp. 201-218.

Boccara F., 1998. Emploi: mythe des PME et réalités des groupes. *Economie et Statistique*, n° 319-320, pp. 137-161.

Bock K., 1985. *Unterschiede im Beschäftigungsverhalten zwischen kleinen und großen Unternehmen*, Ifm-Materialen Nr. 29, ed. Institut für Mittelstandsforschung, Bonn.

Bögenhold D., Schmidt D. (ed.), 1999. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, 281 p.

Bologna S., Fumagalli A. (ed.), 1997. *Il lavoro autonomo di seconda generazione. Scenari del postfordismo in Italia*, Milan Feltrinelli.

Bolton J. (Chairman), 1971. *Report of the committee of inquiry on small firms*, Cmnd 4811, London: HMSO.

Bonneau J., 1994. La création d'entreprises, source de renouvellement du tissu des PME. *Economie et Statistique*, n° 271-272, 1/2, pp. 25-36.

Bonneau M., Gardes C., Rochard M.-B, Gomel B., Gorgeu A., Mathieu R., 1989. *Gestion de l'emploi et de la formation chez les sous-traitants: premiers résultats*, Paris, Céreq / Centre d'Etudes de l'Emploi, Rapport au Commissariat Général du Plan, aux Communautés Européennes et au Ministère de l'Industrie, 31 p.

Bonneau J., Francoz D., 1995. Profil du créateur et survie de l'entreprise. *Insee Première*, n° 372, April.

Bonneau J., Monchois X., 1996. Les créations d'entreprises du premier semestre 1994. *Insee Resultats*, série Système Productif, n° 97-98, March.

Bonneau J., Thirion B., 1997. Création et devenir des entreprises de 1987 à 1995. *Insee Résultats*, n° 535-537, système Productif n° 125-127, April.

Bonnet J., 1998. Le renouvellement du tissu productif à travers la création d'entreprises en France. *Revue Internationale P.M.E*, **11** (1), pp. 9-40.

Bouder A., 1999. Royaume-Uni. *In*: F. Aventur, M. Möbus, eds. *Formation professionnelle initiale et continue en Europe*, Paris, Magnard / Vuibert enlarged edition, pp. 367-399.

Boutillier S., Uzunidis D., 1999. *La légende de l'entrepreneur. Le capital social, ou comment vient l'esprit d'entreprise*, Paris, Syros / Alternatives Economiques, 151 p.

Bramanti A., Maggioni M. (ed.), 1997. *La dinamica dei settori produttivi territoriali: teorie, tecniche, politiche*, Franco Angeli.

Braudel F., 1979. *Civilisation matérielle, économie et capitalisme*, tome 2, Paris, Armand Colin, 600 p.

Brödner P., Pekruhl U., 1991. *Rückkehr der Arbeit in die Fabrik. Wettbewerbsfähigkeit durch menschenzentrierte Erneuerung kundenorientierter Produktion*, Gelsenkirchen.

Brown C., Hamilton J., Medoff J., 1990. *Employers large and small*, Cambridge, Mass.: Harvard University Press.

Bruand F., 1991. La mobilité des jeunes en début de vie active: des petits aux grands établissements. *Céreq-Bref*, n° 63.

Brüderl J., Preisendorfer P., Ziegler R., 1992. Survival chances of newly founded business organization. *American Sociological Review*, vol. 57, April, pp. 227-242.

Brixy U., Kohaut S., 1998. Determinanten des Beschäftigungswachstums ostdeutscher Gründungen. Eine Verknüpfung von IAB-Betriebsdatei und IAB-Betriebspanel. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 199- 221.

Brucy G., 1998. *Histoire des diplômes de l'enseignement technique et professionnel (1880-1965). L'Etat, l'école, les entreprises et la certification des compétences*, Paris, Belin, coll. «Histoire de l'éducation», 285 p.

Brüderl J., 1998. Neugegründete Unternehmen: «Born to die?». *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 99-110.

Brun F., Mouriaux M.-F., 1993. *Subsistance ou développement: deux logiques de la création d'entreprise*, Rapport du Centre d'Etudes de l'Emploi, March, 56 p.

Brusco S., 1982. The Emilian model: productive decentralisation and social integration. *Cambridge Journal of Economics*. **6** (2), pp. 167-184.

Brusco S., 1986. Small firms and industrial districts: the experience of Italy. *In*: D. Keeble, E. Wever, eds. *New firms and regional development in Europe*, London, Croom Helm.

Brusco S., 1989. *Picole imprese e distretti industriali*, Turin, Rosenberg and Sellier.

Brusco S., 1996. Confiance, capital social et développement local: le modèle italien. In: OECD, *Réseaux d'entreprises et développement local*, Paris, pp. 127-131.

Brussig M., 1998. Produktionsstrategien ostdeutscher Kleinbetriebe. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 223-242.

Bucaille A., Costa de Beauregard B., 1989. *PMI 90. Vers la compétitivité globale*, Paris, Direction Générale de l'Industrie / Algoe / Commissariat Général du Plan / Economica, coll. des études, 150 p.

Büchter K., 1998. Strukturwandel und Qualifikationsbedarf in kleinen und mittleren Betrieben – einige ernüchternde Anmerkungen zu einem Klischee. *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 94. Band, Heft 2, pp. 227-247.

Buechtemann C.-F., 1998. L'enseignement professionnel et la formation technique en tant qu'investissement et mobilisation des ressources humaines et financières. *Formation Emploi*, n° 64, October-December, pp. 59-75.

Buechtemann Ch.-F., Verdier E., 1998. Education and training regimes. Macro-institutional evidence. *Revue d'Economie Politique*, May-June, n° 3, pp. 291-320.

Bulgrelli S., Giovine M., 1988. *Il lavoro dei giovani. Prima indagine nazionale sui Contratti di Formazione Lavoro*, Rome, Angeli, 187 p.

Bundesministerium für Bildung und Wissenschaft, 1992. *Berufsbildungsbericht 1992*, Grundlagen und Perspektiven für Bildung und Wissenschaft, n° 31, Bonn, 255 p.

Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, 1998. *Berufsbildungsbericht 1998*, Bonn, Wissenschaft, Forschung und Technologie, 268 p.

Cahiers Lillois d'Economie et de Sociologie, 1998. *La certification. Construction et usages*, 1° semestre, n° 31, 166 p.

Calza Bini P., Mingione E., Pugliese E. (ed.), 1993. Scenari regionali della disoccupazione in Italia. *Inchiesta*, n° 99.

Calza Bini P., 1995. Approches socio-économiques du marché du travail. *In*: A. Jobert, C. Marry C., L. Tanguy. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, «Bibliothèque européenne des sciences de l'Education, pp. 355-375.

Campbell M., Daly M., 1991. Self-employment into the 1990s. *Employment Gazette*, June, pp. 269-292.

Callies J.-M., 1989-a. Etre employeur: une décision inscrite dans le projet d'entreprise. *Economie et Statistique*, March, pp. 3-23.

Callies J.-M., 1989-b. Création d'entreprises et création d'emplois. *Problèmes Economiques*, n° 2135, July, pp. 10-14.

Camisón Zornoza C., 1996-a. Competitividad y teoria de la estrategia: un análisis aplicado a la cohabitación pyme-gran empresa. *Revista Asturiana de Economía*, n° 6, pp. 63-101.

Camisón Zornoza C., 1996-b. Dinámica de la competitividad de la PYME española en la década 1984-94. Análisis del «effecto país», «effecto industria», y «effecto empresa», *Economía Industrial*, n° 310, pp. 121-140.

Campanelli P., Channele J., McCauley L., Renouf A., Thomas R., 1994. *Training: an explanation of the word and concept with an analysis of the implications for survey design*, London, Employment Department, Research series, n° 30, July.

Campinos-Dubernet M., 1999. Le recrutement des jeunes débutants par les PME industrielles: un difficile problème de cohérence. *In*: Courault B., Trouvé Ph., eds. *PME et emploi. Nouvelles approches, nouveaux enjeux*, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi / Dares, forthcoming.

Campinos-Dubernet M., Grando J., 1988. Formation professionnelle ouvrière: trois modèles européens. *Formation Emploi*, n° 22, La Documentation Française, Paris, pp. 5-29.

Capecchi V., 1993. Ecole et formation professionnelle en Italie. *Formation Emploi*, n° 44, La Documentation Française.

Capecchi V., 1995. Développement industriel et politiques de formation, une approche régionale. *In*: A. Jobert, C. Marry C., L. Tanguy. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, Bibliothèque européenne des sciences de l'Education, pp. 355-375.

Carrasco R., 1997. *Transitions to and from self-employment in Spain: an empirical analysis*, Madrid, CEMFI (Centro de Estudios Monetarios y Financieros), Working Paper n° 9710, July, 43 p.

Casado Juan F., 1996. Estrategia y resultados de la empresa familiar en España. De la pyme a la gran empresa familiar. *Economía Industrial*, n° 310, pp. 91-98.

Caussat L., Olier L., 1997. *L'emploi non salarié: un regard statistique*. Contribution au séminaire 'Contrat d'activité', Insee / Dares Ministère de l'Emploi du 25 février.

Cedefop, 1983. *Systèmes de formation professionnelle dans les pays membres de la Communauté Européenne. Etudes comparatives*, Luxembourg, Office des Publications Officielles des Communautés Européennes, 480 p.

Chanut A., Baudequin-Gélard I., 1999. La dépense de formation professionnelle en 1997: une légère hausse. *Premières Synthèses*, Dares, 99.12 – n° 48.1, 7 p.

Charpail C., Zilberman S.. 1999. Le Contrat Initiative Emploi, une mesure de réinsertion durable? *Premières Synthèses*, Dares, 99.11 – n° 46.1, 10 p.

Charraud A.-M., Paddeu J., 1999. *Reconnaissance et validation des acquis dans le contexte de la formation*, Céreq, Séquences, Synthèses documentaires, hors série, n° 2, 63 p.

Chavanes G., 1975. *Des usines à la campagne; des ateliers à la rencontre des hommes*, Rapport au Ministre de l'Industrie et de la Recherche, Paris, Documentation Française, 211 p.

Chevalier J.-M., 1977. *L'économie industrielle en question*, Paris, Calmann Levy, 268 p.

Chevalier J.-M., 1997. Stratégie d'entreprise et économie industrielle. *In*: Y. Simon, P. Joffre. *Encyclopédie de Gestion*, Paris: Economica, tome 3, 2° édit., art. 161, pp. 3043-3063.

Child J., Mansfield R., 1972. Technology, size and organization structure. *Sociology*, vol. 6, pp. 369-393.

Christe G., 1998. Industrieller Strukturwandel und Qualifikationsbedarf in kleinen und mittleren Unternehmen. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 181-198.

Churruca E., Barrutia J., Landeta J., 1995. dirección estratégica de las PYMES ante la globalización económica. *Harvard Deusto Business Review*, n° 66, pp. 30-39.

Clasquin B., Lhotel H., eds., 1998. *La formation professionnelle continue – tendances et perspectives*, Journées d'étude du réseau des centres associés au Céreq, organisées par le groupe de recherche sur l'Education et l'Emploi, Nancy, 30-31 May 1996, Céreq, coll. Documents séminaires, n° 138, September, 320 p.

CLES, 1992. *Reforming the TECs – Towards a new training strategy*. Centre for Local Economic Strategies, Alberton House, St Mary's Parsonage, Manchester M3 2WJ.

Clifford Jr. D.-K., Cavanagh R.-E., 1989. *Estrategias de éxito para la pequeña y mediana empresa*, Barcelona, Ediciones Folio.

Colletis G., Courlet C., Pecqueur B. et al., 1990. *Les systèmes industriels localisés en Europe*, Grenoble, IREP-D, série Rapports de recherche. September, 132 p.

Combes M.-C., 1988. *Alternance et insertion professionnelle. Dossier de synthèse*, Céreq, Coll. des etudes, n° 36.

Commission Européenne, 1995. *Livre blanc sur l'éducation et la formation. Vers une société cognitive*, Luxembourg.

Commission Européenne, 1996. *Les entreprises en Europe. Quatrième Rapport*, Projet PME, Eurostat, Luxembourg, Office des Publications Officielles des Communautés Européennes 171 p.

Commission Européenne, 1998. *Entreprises en Europe (données 1994-1995). Cinquième Rapport*, Projet PME, Eurostat, Luxembourg, Office des Publications Officielles des Communautés Européennes, 241 p.

Commission Européenne, 1999. *Formation continue en entreprises: faits et chiffres*. Rapport sur les résultats de l'enquête sur la formation professionnelle continue en entreprise dans les Etats membres de l'Union européenne en 1994, DG XXII, Centre for

650

Training Policy Studies, Université de Sheffield, Angleterre, 91 p.

Commission Européenne (DG XXII), Eurostat, Cedefop, 1997. *Chiffres clés sur la formation professionnelle dans l'Union Européenne*, Luxembourg, Office des Publications Officielles des Communautés Européennes, 127 p.

Commission Internationale d'Histoire des Mouvements Sociaux et des Structures Sociales, 1981. *Petite entreprise et croissance industrielle dans le monde aux XIX° et XX° siècles*, Paris, Editions du CNRS, 2 vols., 1112 p.

Contino B., Revelli R., 1992. *Imprese, occupazione e redistribuzioni al microscopo. Studi sull'economia alla luce delle fonti statistiche INPS*, Bologna, Il Mulino.

Cosh A.-D., Hughes A., Wood E., 1996. *Innovation in UK SMEs: causes and the consequences for business failure and acquisition*, ESRC, Centre for Business Research, Working Paper, n° 48.

Cosh A., Duncan J., Hughes A., 1998. *Investing in training and small firm growth and survival: an empirical analysis for the UK 1987-97*, DfEE Research Report RR 36, London, 73 p.

Costa G., Rullani E. (ed.), 1999. *Il maestro e la rete. Formazione continua e reti multimediali*, Milan, Etaslibri.

Coutrot L., Dubar C., 1992. *Cheminements professionnels et mobilités sociales*, Paris, La Documentation Française, 372 p.

Courault B., Parat E., 1998. PME et emploi: l'industrie de l'habillement à Roanne et à Cholet. *La Lettre du CEE*, n° 54, October, 12 p.

Courault B., Trouvé P. (ed.), 1999. *PME et emploi. Nouvelles approches, nouveaux enjeux*, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi / Dares, forthcoming.

Cowling M., Storey D.-J., 1998. *Job quality in SMEs*, Final Report for European Foundation for the Improvement of Living and Working Conditions, SME Centre, University of Warwick, duplicated, 81 p.

Cramer U., 1987. Klein- und Mittelbetriebe: Hoffnungsträger der Beschäftigungspolitik? *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 1, pp. 15-29.

Creagh M., 1999. *Education and Vocational Training for small and medium Enterprises in the UK – a historical overview and the current picture*, Cranfield School of Management, Contribution to this report duplicated, 12 p.

Cressy R., 1996. Are business startups debt-rationed? *Economic Journal* **106** (438), Sept., pp. 1253-1270.

Cross M., 1983. The United Kingdom. *In*: D.J. Storey, ed. *The small firm: an international survey*, London, Croom Helm.

Crouch C., Finegold D., Sako M., 1999. *Are skills the answer?* Oxford, Oxford University Press.

Curran J., 1990. Rethinking economic structure: exploring the rôle of the small firm and self-employment in the British economy. *Work, Employment and Society*, Special Issue, May, pp. 125-146.

Curran J., Stanworth J., 1981. The social dynamics of the small manufacturing enterprise. *Journal of Management Studies*, **18**(2), pp. 141-158.

Curran J., Blackburn R.A., Woods A., 1991. *Profiles of the small enterprise in the service sector*, ESRC, Centre for Research on Small Service Sector Enterprise, Kingston Polytechnic.

Curran J., Blackburn R.A., Kitching J., North J., 1996. *Establishing small firms' training practices, needs, difficulties and use of industry training organisations*. London, HMSO Publications Centre, Dpt. For Education and Employment, Research Studies n° 17, 69 p.

Curvalle B., 1994. *L'EDI et le JAT condamnent-elles les PME?* Communication aux II° journées IUT de la Recherche en Sciences Sociales et Humaines, Toulouse.

Dahremöller A., 1985. *Der Beitrag mittelständischer Unternehmen zur Beschäftigung und zum Wachstum unter Berücksichtigung der Unternehmensfluktuation*, ifm-Materialen Nr. 32, ed. Institut für Mittelstandsforschung, Bonn.

Dalle F., Bounine J., 1987. *Pour développer l'emploi. Rapport à Monsieur le Ministre des Affaires Sociales et de l'Emploi*, Paris, Masson, 220 p.

Daly M., Campbell M., Robson M., Gallagher C., 1991. Job creation 1987-89: the contributions of small and large firms. *Employment Gazette*, November, pp. 589-596.

Dares, 1995. *L'emploi et les relations sociales dans les PME*, Paris, Ministère du Travail et des Affaires Sociales / La Documentation Française, 263 p.

Davidsson P., Lindmark L., Olofsson C., 1993. Regional characteristics, business dynamics and economic development. *In*: C. Karlsson, B. Johannisson, D. Storey. *Small business dynamics. International, national and regional perspectives*, London, Routledge, 1993, pp. 145-174.

Davidson P., Lindmark L., Olofsson C., 1994. New firm formation and regional development in Sweden. *Regional Studies*, **28** (4), pp. 395-410.

Davidsson P., Leidmark L., Olofsson C., 1996. *The extent of overestimation of small firm creation: an empirical examination of the «regression bias*. Communication au 41 ème Congrès International de l'ICSB, Stockholm, 17-19 June.

Davis S.-J., Haltiwanger J., 1996. Small business and job creation: dissecting the myth and reassessing the facts. *Small Business Economics*, 8, pp. 297-315.

De Banville E., Vennin B., 1999. Un ancien territoire industriel peut-il devenir un «territoire de PME»? Le cas de Saint Etienne. *In*: B. Courault, P. Trouvé, eds.. *PME et emploi, nouvelles approches, nouveaux enjeux*, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi, forthcoming.

De Banville E., Chanaron J.-J., 1991. *Vers un système automobile européen*, Paris, Economica CPE.

Debrinay G., 1990. Les nouvelles lois de la compétitivité. *Harvard l'Expansion*, n° 56, Spring, pp. 66-77.

Dei Ottati G., 1995. *Tra mercato e comunità: aspetti concetuali e richerche empiriche sul distretto industriale*, Milano, Franco Angeli.

Delattre M., 1982. Les PME face aux grandes entreprises. *Economie et Statistique*, n° 148, pp. 3-19.

Delors J., 1999. Une exigence d'adaptation. *La revue de la Confédération Française Démocratique du travail*, n° 22-23, August-September, pp. 3-9.

DES/DE/WO, 1991. *Education and training for the 21st Century*, Department of Education and Science / Department of Employment / Welsh Office, Cm 1536, Volumes 1 and 2 (HMSO, London).

De Vivo P., 1997. *Sviluppo locale e Mezzogiorno. Piccole imprese, territorio e azione pubblica*, Milan, Franco Angeli, Clana di sociologia, 160 p.

Deshpande S.-P., Golhar D.-Y., 1994. HRM practices in large and small manufacturing firms: a comparative study. *Journal of Small Business Management*, April, pp. 49-55.

Desreumaux A., 1992. *Structures d'entreprise*, Paris, Vuibert, «Gestion», 334 p.

D'Iribarne A., 1986. *Renouvellement technologique, PME et création d'emplois: recherche et nécessité d'une compétitivité économique*, Aix-en-Provence, Document LEST.

D'Iribarne A., 1988. *Structure et mécanismes de formation continue en Europe. Caractéristiques et perspectives*. Berlin, Senator für Wirtschaft und Arbeit, BIBB, Cedefop, 2ème congrès européen sur la formation continue, Berlin, 27-28 October, La formation continue en Europe pour l'emploi et le changement structurel (no page nos.).

D'Iribarne A., 1993. Les chercheurs et l'information sur la formation professionnelle au niveau européen. *Formation Professionnelle*, n° 1, Cedefop, pp. 23-28.

Dohse K., Jürgens U., Malsch T., 1985. Fertigungsnahe Selbstregulierung oder zentrale Kontrolle. Konzernstrategien im Restrukturierungsprozeß der Automobilindustrie. *In*: F. Naschold, ed. *Arbeit und Politik*, Frankfurt am Main, pp. 49-89.

Doi N., Cowling M., 1998. The evolution of firm size and employment share distribution in Japanese and UK manufacturing: a study of small business presence. *Small Business Economics*, 10, pp. 283-292.

Doyle J.-R., Gallagher C., 1987. The size distribution, growth potential and job-generation contribution of UK firms. *International Small Business Journal*, **6** (1), Autumn.

Drexel I., ed., 1986. *Problèmes de la formation dans les petites et moyennes entreprises*, Cedefop, Rapport de séminaire, Luxembourg, Office des Publications officielles des Communautés européennes, 293 p.

Dti, 1994. *Competitiveness: helping business to win*, London, HMSO.

Dti, 1995. *Small and medium sized enterprise (SME). Statistics for the United Kingdom, 1993*, Department of Trade and Industry Small Firms Statistics Unit, Sheffield, June.

Dubost N., 1995. *Les PME françaises évoluent-elles vers des bureaucraties?* Communication au Congrès de l'AIMS, Paris-Dauphine, pp. 596-611.

Duchéneaut B., 1995. *Enquête sur les PME françaises. Identités, contextes, chiffres*, Paris, CEPME / Maxima Laurent du Mesnil éd., 1995, 577 p.

Duchéneaut B., 1996. *Les dirigeants de PME. Enquête, chiffres, analyses*, Paris, CEPME / Maxima Laurent du Mesnil, 516 p.

Dunne T., Roberts M.J., Samuelson L., 1988. Patterns of firm entry and exit in US manufacturing industries. *Rand Journal of Economics*, **19** (4), Winter, pp. 495-515.

Dunne P., Hughes A., 1990. *Small businesses: an analysis of recent trends in their relative importance and growth performance in the UK with some European comparisons*, Small Business Research Centre, Working Paper, n° 1, Cambridge.

Dunne P., Hughes A., 1994. Age, size, growth and survival: UK companies in the 1980s. *Journal of Industrial Economics*, vol. XLII, n° 2, June, pp. 115-140.

Education Permanente, 1993. *La formation des dirigeants*, n° 114, March, 246 p.

ENSR – European Network for SME research, 1996. *Observatoire Européen des PME. Quatrième rapport annuel 1996*, Zoetermeer, 440 p.

ENSR – European Network for SME research, 1997. *Observatoire Européen des PME. Cinquième rapport annuel 1997*, Zoetermeer, 384 p.

Eudised, 1998. *European Educational Research Yearbook. 1996/97. Project reports, People, Contacts*, Munich, K.G. Saur, 480 p.

Eucken W., 1955. *Grundsätze der Wirtschaftspolitik*, 2nd edn., Tübingen, Zürich.

European Commission, 1998. The contribution of SMEs to employment. In: *Employment in Europe 1998*, Directorate General for Employment, Industrial Relations and Social Affairs, October, pp. 81-94.

European Commission, 1999. *The influence of the size of the enterprise on training behaviour. A report on the results of the first continuing vocational training survey (CVTS1)*, Prepared by the Centre for Training Policy Studies, University of Sheffield, England, 17 p.

Eurostat, 1992. *Enquête sur les forces de travail. Méthodes et définitions, série 1992*, Office des Publications Officielles des Communautés Européennes, Luxembourg.

Evans D.S., 1987. The relationship between firm growth, size and age: estimates for 100 manufacturing industries. *Journal of Industrial Economics*, n° 35, pp. 567-581.

Evans D., Leighton L., 1989. Some empirical aspects of entrepreneurship. *The American Economic Review*, 79.3, pp. 519-535.

Evans L.B., Siegfried J.J., 1992. Entry and exit in United States manufacturing industries from 1977 to 1982. *In:* Audretsch A.B., Siegfried J.J., eds. *Empirical studies in industrial organization: essays in honor of Leonard W. Weiss*, pp. 253-273.

Fabi B., Garand D.J., Pettersen N., 1994. *La GRH en PME: proposition et application d'un modèle contingentiel*, Cahier de Recherche n° 94-04, GREPME-UQTR, Communication présentée au Congrès international francophone de la PME (CIFPME), Carthage, October 1993, 15 p.

Falk M., Pfeiffer F., 1998. *Einsatz von Humankapital in den 90er Jahren. Analysen mit dem Mikrozensus, Beitrag zur Berichterstattung 'Zur technologischen Leistungsfähigkeit Deutschlands 1997'*, commissioned by Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, ZEW.

Faulstich P., 1992. Qualifikationskonservatismus in Klein- und Mittlelbetrieben als Modernitätswiderstand oder Überlebensstrategie. *In*: Kipp, M. et al., eds. *Paradoxien in der beruflichen Aus- und Weiterbildung, zur Kritik über Modernitätsrisiken*, Frankfurt.

Felstead A., Green F., Mayhew K., 1998. L'interprétation des statistiques de la formation en Europe: mise en garde. *Formation Professionnelle*, n° 14, May-August, Cedefop, pp. 69-77.

Fernández Z., 1993. La organización interna como ventaja competitiva para la empresa. *Papeles de Economía Española*, N° 56, pp. 178-193.

Fernández E., Montes J.M., Vázquez C.J., 1996. Factores de competitividad en la pequeña y mediana empresa. Inversión en activos intangibles, tamaño y límites al crecimiento. *Economía Industrial*, n° 310, pp. 141-148.

Ferrer Ortega C., 1999. La formaciòn en la empresa: ¿ una realidad? El caso de las empresas de la comunidad valenciana. *Direcciòn y Organizaciòn*, Revista de Direcciòn Organizaciòn y Administraciòn de Empresas, n° 21, CEPADE, January, Fundaciòn General Universidad Politécnica de Madrid, pp. 103-115.

Feutrié M., 1997. *Identification, validation et accréditation de l'apprentissage antérieur et informel. France.* Rapport National, Cedefop, Panorama, 79 p.

Fieten R., 1995. *So überleben Automobilzulieferer in schwierigen Zeiten. Ergebnisse einer Pilotstudie des RKW*, Rationalisierungskuratorium der Deutschen Wirtschaft, Eschborn.

Flash Formation Continue, 1996-a. *Perspectives de formation dans les PME en 1996.* January, n° 417, pp. 7-9.

Flash Formation Continue, 1996-b. *Pratiques de formation des PME.* 1st December, n° 434, pp. 11-16.

Fournet M., Bedin V., 1998. L'ingénierie de formation entre traditionnalisme et modernisme. Les nouvelles formes de formation continue vues par des dirigeants de PME-PMI. *Formation Emploi*, n° 63, July-September, pp. 43-59.

Fouz Uguet J.-M., 1997. La pequeña y mediana empresa ante el proceso de colocaciòn. *In:* J.M. Santamaría Sánchez, R. Sánchez Ger, D. Almorza Gomar, eds. *La pequeña y mediana empresa desde una perspectiva jurídica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 101-115.

Francoz D., 1996. Les cessations d'entreprises depuis 1989. *INSEE Première*, n° 463, June.

Francoz D., Bonneau J., 1994. Le devenir des entreprises créées en 1987. *Insee Première*, April, 4 p.

Frick S., 1998. Kultur der Selbständigkeit in Deutschland? Zur theoretischen und empirischen Fundierung eines aktuellen Begriffs der Wirtschaftspolitik. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 7-41.

Fried V.-H., Elard B., 1997. Franchising research: a literature review and synthesis, *Journal of Small Business Management*, **35** (3), July, p. 68.

Fries Guggenheim E., 1999. Danemark. *In*: F. Aventur, M. Möbus, eds. *Formation professionnelle initiale et continue en Europe*, Paris, Magnard / Vuibert enlarged edition, pp. 103-134.

Friot B., Rose J., 1996. *La construction sociale de l'emploi en France. Les années soixante à aujourd'hui*, Paris, l'Harmattan, 245 p.

Fritsch M., 1984. *Die Arbeitsplatzentwicklung in kleinen und mittleren Betrieben bzw. Unternehmen.* Information zur Raumentwicklung, vol. 9

Fua G., 1983. L'industrializzazione nel Nord-Est e nel Centro. *In*: G. Fua, C. Zacchia, eds. *Industrializzazione senza fratture*, Bologna, Il Mulino.

Fumagalli A., 1997. Lavoro e piccola impresa nel modello di acculazione flessibile in Italia. *Altreragioni*, 6, pp. 122-147.

Gaffard J.-L., ed., 1990. *Cohérence et diversité des systèmes d'innovation. Le cas des systèmes d'innovation localisés en Europe*, Sophia Antipolis, Rapport programme Fast, 137 p. + annexes.

Gallagher C., Steward H., 1986. Jobs and the business life cycle in the UK. *Applied Economics*, 18 August, pp. 875-900.

Gallagher C., Miller P., 1991. New fast growing companies create jobs. *Long Range Planning*, **24** (2), pp. 96-101.

Gambier D., Vernières M., 1991. *Le marché du travail*, Paris, Economica, 3rd edn., 231 p.

Ganne B. (dir.), 1992. *Développement local et ensembles de PME.* Rapport du groupe de travail financé par le PIRTTEM (1989-1991), Lyon, GLYSI, document n° 6, juillet, 503 p.

Ganne B., 1999. PME, districts et nouvelles territorialités. *In*: B. Courault, Ph. Trouvé, eds. *PME et emploi, nouvelles approches,*

nouveaux enjeux, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi, forthcoming.

Gantzel H.J., 1962. *Wesen und Begriff der mittelständischen Unternehmung*, Köln / Opladen.

Garand D., 1993. *Les pratiques de gestion des ressources humaines (GRH) en petites et moyennes entreprises (PME): une synthèse conceptuelle et empirique*, Rapport de recherche, Groupe de Recherche en Economie et Gestion des PME (GREPME), Département d'Administration et d'Economie, Université du Québec à trois-Rivières, 386 p.

García Ordóñez J.-A., 1997. Por qué triunfan o fracasan las pymes? *In:* J. M. Santamaría Sánchez, R. Sánchez Ger, D. Almorza Gomar, eds. *La pequeña y mediana empresa desde una perspectiva jurídica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 177-192.

Garofoli G., 1981. Lo sviluppo delle aree periferiche nell'economia italiana degli anni 70. *L'Industria*, n° 3.

Garofoli G., 1983-a. *Industralizzazione diffusa in Lombardia*, Milan, Istituto Regionale di Ricerca / Franco Angeli.

Garofoli G., 1983-b. Le aree-sistema in Italia. *Politica ed Economia*, vol. XIV, n° 11, November.

Garofoli G., 1989. Modelli locali di sviluppo: i sistemi di piccola impresa. *In*: G. Becattini. *Modelli locali di sviluppo*, Bologna, Il Mulino, pp. 75-90.

Gass R., 1996. La nouvelle phase du changement: vers une économie décentralisée et une société active. in OCDE, *Réconcilier l'économique et le social*, Paris, OCDE, 'Développement territorial', pp. 57-70.

Gastaldi D., 1999. Des réseaux d'entreprise à l'entreprise en réseau. Une stratégie originale de développement pour les PME. *Humanisme et Entreprise*, n° 233, February, 20 p.

Gazier B., 1998. Ce que sont les marchés transitionnels. *In*: J.-C. Barbier, Gautié J., eds. *Les politiques de l'emploi en Europe et aux Etats-Unis*, PUF, coll. 'Cahiers du CEE', n° 37, pp. 339-355.

Gebert D., Steinkamp Th., 1990. *Innovativität und Produktivität durch betriebliche Weiterbildung. Eine empirische Analyse in Mittelständischen Unternehmen*, Stuttgart.

Gehin J.-P., Méhaut P., 1993. *Apprentissage ou formation continue? Stratégies éducatives des entreprises en Allemagne et en France*, Paris, l'Harmattan.

Geroski P.-A., 1991. *Market dynamics and entry*, Basil Blackwell, Oxford.

Geroski P.-A., 1995. *Innovation and competitive advantage*, OECD, Economics Department, Working paper n° 159.

Geroski P.-A., Pomroy R., 1990. Innovation and the evolution of market structure. *Journal of Industrial Economics*, 38, pp. 299-314.

Gil S., Allesch J., Preiß-Allesch D., 1993. *Improving SME access to training: strategies for success – A rapport on best practices in EC Member States*. Extraits du rapport final pour le colloque: La formation dans l'artisanat et la qualification des dirigeants, cadres et créateurs d'entreprises, 15, 16 and 17 November 1993 à la Chambre des Métiers du Grand-Duché de Luxembourg, Thème 2, 24 p.).

Giorgetti G., 1995. Il sistema regionale della formazione professionale: un caso di relazioni interorganizzative a «legame debole», *Economia e diritto del terziario* (2), pp. 799-812, part. 2.

Giovine M., ed., 1998. *Employment in Italy: profiles, paths, policies. Summary of 'Il lavoro in Italia: profili, percorsi, politiche'*, Rome, Instituto per lo Sviluppo della Formazione Professionale dei Lavoratori (Isfol), 166 p.

Gittleman M., Horrigan M., Joyce M., 1998. 'Flexible' workplace practices: evidence from a nationally representative survey, *Industrial and Labor Relations Review*, October, n° 1, pp. 99-113.

Goasguen C., Ueberschlag J., 1994. *Rapport de la Commission d'enquête d'utilisation des fonds affectés à la formation professionnelle*, Paris, Assemblée Nationale, rapport n° 1241, 19 May, vol. 1, pp. 20-27.

Godet M., 1999. Le chercheur, le chômeur et l'entrepreneur. *Futuribles*, January, pp. 23-29.

Golhar D.-Y., Deshpande S.-P., 1997. HRM practices of large and small Canadian manufacturing firms. *Journal of Small Business Management*, July, **35** (3), pp. 30-40.

Gollac M., Laulhé P., 1987. La transmission du statut social. *Economie et Statistique*, n° 199-200, May-June, pp. 85-92.

Gorgeu A., Mathieu R., 1995. *Recrutement et production au plus juste*, Dossier du CEE, n° 7, December.

Gorgeu A., Mathieu R., 1999. Les PMI dans la filière automobile: leurs spécificités et leur mode de gestion de la main-d'œuvre. *In*: B. Courault, P. Trouvé, eds. *PME et emploi. Nouvelles approches, nouveaux enjeux*, Paris, PUF, coll. Cahiers du Centre d'Etudes de l'Emploi / Dares, forthcoming.

Gorgeu A., Mathieu R., Pialoux, 1998. *Organisation du travail et gestion de la main-d'œuvre dans la filière automobile*, dossier du CEE, n° 14, Paris, La Documentation Française.

Gorz A., 1980. *Adieux au prolétariat*, Paris, Galilée, 245 p.

Gospel H., 1998. Le renouveau de l'apprentissage en Grande Bretagne. *Formation Emploi*, n° 64, October-December, pp. 25- 42.

Goss D., Jones R., 1992. Organisation structure and SME training provision. *International Small Business Journal*, 10, 4, pp. 13-25.

Granato N., Leicht R., 1996. *Unternehmerprofil im Wandel. Zur Demographie von Selbständigen und Arbeitnehmern im Zeitvergleich*. Strukturbericht – Kurzinfo, n° 1, Mannheim, Institut für Mittelstandsforschung, 4 p.

Grando J.-M., Verdier E., 1988. L'électronique professionnelle et la formation: ambivalence d'un secteur de pointe. *Formation Emploi*, n° 21, La Documentation Française.

Grasser B., Lhotel H., Sacher F., 1999. *L'existence théorique de la PME et les transformations du rapport salarial*, Les Cahiers du Grée, n° 10, Université Nancy 2, CRA-Céreq, February, 34 p.

Green F., Montgomery S.M., 1998. The quality of skill acquisition in young workers' first job. *Labour*, autumn, n° 3, pp. 473-487.

Greffe X., ed., 1984. *Les PME créent-elles des emplois?* Paris, Economica / Centre de Recherche Travail et Société, 302 p.

Greffe X., Johnston I., eds., 1998. *Comment valider les compétences dans une société de la connaissance?* Conférence internationale organisée les 2 et 3 février 1998 à Marseille, Marseille, Institut de la Méditerranée, duplicated.

Gresle F., 1981. *L'univers de la boutique. Les petits patrons du Nord (1920-1975)*, Lille, Presses Universitaires de Lille, 161 p.

Gubian A., Holcblat N., 1999. Les dispositifs spécifiques de la politique de l'emploi en 1998: redéploiement vers les jeunes des aides à l'emploi et à l'insertion. *Premières Synthèses*, Dares, 99.10 – n° 43.1, 10 p.

Holliday R., 1995. *Investigating small firms: nice work?* London, Routledge, 188 p.

Hales C., Tamangani Z., Walker A., Murphy N., 1996. NVQs in small businesses: factors influencing adoption. *Education and Training*, **38** (2), pp. 3-13.

Harrison B., 1994a. *Lean and mean. The changing landscape of corporation power in the age of flexibility*. Basic Books, New York.

Harrison B., 1994b. The small firms myth. *California Management Review*, **36** (4), pp. 142-158.

Hartog J., 1999. Décortiquer le capital humain. *L'observateur de l'OCDE*, n° 215, January, pp. 37-39.

Hecquet V., Lainé F., 1998. *Structures productives locales et formes d'organisation économique: une analyse typologique*, INSEE, Document de travail, E 9811/H 9804, 70 p.

Hendry C., Jones A., Arthur M., Pettigrew A., 1991. *Human resource development in small to medium sized enterprises*, Research Paper n° 88, University of Warwick, Centre for Corporate Strategy and Change, Warwick Business School, 92 p.

Hendry C., Jones A., Arthur M., 1991. Skill supply. Training and development in the small-medium enterprise. *International Small Business Journal*, **10** (1), pp. 68-72.

Henninges V., 1994. *Die berufliche, sektorale und statusmäßige Umverteilung von Facharbeitern*. Beiträge zur Arbeitsmarkt- und Berufsforschung 182, Nürnberg.

Heraud J.-A., Forte M., 1995. Investissement, modernisation et emploi dans les PME. *In*: Dares. *L'emploi et les relations sociales dans les PME*, Paris, Ministère du Travail et des Affaires Sociales / La Documentation Française, pp. 54-78.

Hewitt N., 1993. *Elephants and wallflowers at the global dance: a comparative analysis of the quality of training within small manufacturing firms in Northern Ireland and Massachusetts*. Proceedings of the 16th National Small Firms Policy and Research Conference, Nottingham, The Nottingham Trent University.

Hilbert J., Sperling J., 1993. *Die kleine Fabrik. Beschäftigung, Technik und Arbeitsbeziehungen*, München, Rainer Hampp Verlag, Schriftenreihe industrielle Beziehungen, 207 p.

Hilbert J., Sperling J., 1995. Hoffnungsträger und Stiefkinder. Die Kleinen: eine europäische Großmacht. *Die Mitbestimmung*, 2, pp. 13-16.

Hillau B., 1987. PME, gestion du personnel et environnement de l'entreprise. *Formation Emploi*, n° 19, Céreq, pp. 19-24.

Hinz Th., Wilsdorf S.-H., 1998. Das Scheitern von Betriebsgründungen in den neuen Ländern. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 263-281.

Hodkinson P., Sparkes A., 1995. Markets and vouchers: the inadequacy of individualist policies for vocational education and training in England and Wales. *Journal of Educational Policy*, **10** (2), pp. 198-207.

Hodkinson P., Sparkes A., Hodkinson H., 1996. *Triumphs and tears: young people, markets and the transition from school to work*, London, David Fulton.

Höfkes U., Beyer J., 1995. Berufliche Weiterbildung im Kontext regionaler Steuerung und ordnungspolitischer Gestaltung. *In*: R. Dobischat, R. Husemann, eds. *Berufliche Weiterbildung als freier Markt? Regulationsanforderungen der beruflichen Weiterbildung in der Diskussion*, pp. 111-134.

Hollard M., Margirier G., Rosanvallon A., 1987. *L'automatisation avancée de la production dans les activités d'usinage*, Grenoble, IREP-D, 212 p.

Hornsby J.-S., Kuratko D.-K., 1990. Human resource management in small business: critical issues for the 1990s. *Journal of Small Business Management*, July, pp. 9-18.

Howarth S., Stone S., 1999. Modern apprenticeships: four years on. The impact of the modern apprenticeship programme on employers and trainees since its introduction in 1994. *Labour Market Trends*, February, **107** (2), pp. 75-81.

Hughes A., 1997. *Small firms and employment*, ESRC Centre For Business Research, University of Cambridge, working paper n° 71, september, 29 p.

Hull C.J., 1984. *A note on the relationship between firm size and employment change in West Germany1974-1980*, Wissenschaftzentrum Berlin, IIMV/LMD.

Hyland T., 1994. *Competence, education and NVQs: dissenting perspectives*, London, Cassell.

Hyland T., 1996. NVQs, skills training and employer's needs: beyond Beaumont and Dearing, *Journal of Vocational Education and Training*, **48** (4), pp. 349-365.

Hyland T., Matlay H., 1997. Small businesses, training needs and VET provision. *Journal of Education and Work*, **10** (2), pp. 129-139.

Ice – Información Comercial Española, 1998. *Una Política de Apoyo a la PYME*, Revista de Economía, Ministerio de Economía y Hacienda, n° 771, June, 216 p.

IES, 1995. *Employer's use of the NVQ System*, University of Sussex, Institute of Employment Studies.

Impi, 1995. *Informe Anual. La pequeña y mediana empresa en España, 1994*, Madrid, Instituto de la Pequeña y Mediana Empresa Industrial, May, 185 p.

Información Comercial Española, 1998. *Una Política de Apoyo a la PYME*, Revista de Economía, Ministerio de Economía y Hacienda, n° 771, June, 216 p.

Insee, 1994. Les entreprises petites et moyennes. Croissance et atouts. *Economie et Statistique*, n° 271-272, 1994-1/2, 140 p.

Insee, 1997. *Les réseaux d'entreprises: des collectifs singuliers*, Insee Méthodes, n° 67-68, 188 p.

Insee, 1997-98. *Tableau de l'Economie Française*, 197 p.

Insee, Liaisons Sociales, Dares, 1996. *Les PME et leurs salariés*, Paris: Editions Liaisons, Les dossiers thématiques, n° 4, 172 p.

Institut für Mittelstands-Forschung, ed., 1996. *Dokumentation zur Strukturberichterstattung Nr. 2. Materialband zur Beschäftigtenstatistik. Entwicklung von Beschäftigten und Betrieben nach Größenklassen 1977-1995*, Teil 1, Bundesrepublik Deutschland, Universität Mannheim.

Instituto de la Pequeña y Mediana Empresa Industrial, 1995. *Informe Anual. La pequeña y mediana empresa en España, 1994*, Madrid, IMPI, May, 185 p.

Irsch N., 1985. Kleine und mittlere Unternehmen im Strukturwandel. *In:* Kreditanstalt für Wiederaufbau, ed. *Analysen – Meinungen – Perspektiven*, Frankfurt a. M., S. 35 ff.

Ivanaj V., Géhin S., 1997. Les valeurs du dirigeant et la croissance de la PME. *Revue Internationale P.M.E*, **10** (3-4), pp. 81- 108.

Jacot J.-H., Lajoinie G., 1988. *Modes d'organisation et technologie. Introduction de l'automatisation dans les PMI*, Lyon, Presses Universitaires de Lyon, 146 p.

Jobert A., Marry C., Tanguy L., 1995. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, «Bibliothèque européenne des sciences de l'Education, 398 p.

Jobert A., 1995. Emploi et formation en Italie: le rôle des régions et des organisations professionnelles. *In*: A., Jobert, C. Marry C., L. Tanguy. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, Bibliothèque européenne des sciences de l'Education, pp. 273-295.

Johannisson B., 1993. Designing supportive contexts for emerging enterprises. *In*: Karlsson C., Johannisson B., Storey D., eds. *Small Business Dynamics. International, national and regional perspectives*, London, Routledge, pp. 117-144.

Johnson P.-S., 1989. Employment change in the small establishment sector in UK manufacturing. *Applied Economics*, 21, pp. 251-260.

Johnson S., 1991. Small firms and the UK labour market. Prospects for the 1990s. *In:* J. Curran and R. Blackburn, eds. *Paths of enterprise. The future of the small business*, London, Routledge, pp. 88-113.

Join-Lambert M.-Th., Bolot-Gittler A., Daniel C., Lenoir D., Méda D., 1997. *Politiques sociales*, Paris, Dalloz-Presses de la Fondation Nationale des sciences politiques, 1st ed., 1993, pp. 334-352.

Jones T., McEvoy D., Barrett G., 1994. Labour intensive practices in the ethnic minority firm. *In*: J. Atkinson, D. Storey. *Employment, the small firm and the labour market*, London, Routledge, pp. 172-205.

Jovanovic B., 1982. Selection and evolution of the industry. *Econometrica*, **50** (3), May, pp. 649-670.

Julien P.-A., 1997. *Les PME. Bilan et perspectives*, Paris, Economica, 2nd edn., 364 p.

Julien P.-A., Marchesnay M., 1988. *La petite entreprise*, Paris, Vuibert, «Gestion», 288 p.

Julien P.-A., Marchesnay M., 1996. *L'entrepreneuriat*, Paris, Economica, «Gestion-Poche », 111 p.

Kailer N., 1992. Bildungsmarketing für kleine und mittlere Unternehmen. *In*: B. Paulsen, F. Worschech, eds. *Arbeitsorientierte Weiterbildung für KMU. Strategien, Konzepte, Methoden*, Eurotechnet, Brüssel/Berlin, pp. 187-200.

Karlsson Ch., Johannisson B., Storey D., 1993. *Small business dynamics. International, national and regional perspectives*, London, Routledge, 249 p.

Keeble D., Walker S., 1993. New firms, small firms and dead firms: spatial patterns and determinants in the United Kingdom. *Regional Studies*, **28** (4), pp. 411-427.

Kern H., Schumann M., *Das Ende der Arbeitsteilung? Rationalisierung in der industriellen Produktion*, München, 1984.

Kinsella R., Clarke W., Storey D.-J, Mulvenna D., Coyne D., 1994. *Fast growth small firms: an Irish perspective*, Dublin: Irish Management Institute.

Kirchhoff B.A., 1994. *Entrepreneurship and dynamic capitalism*, Westport and London: Praeger.

Kirchhoff B.A., Greene P.G., 1998. Understanding the theoretical and empirical content of critiques of U.S. job creation research. *Small Business Economics*, 10, pp. 153-169.

653

Kitching J., 1998. Investing in training and small firm growth and survival: an empirical analysis for the UK 1987-97. *International Small Business Journal*, Oct., v. 17, I. 1, p. 110.

Koch W., Strutynski P., 1996. *Bedeutung, Probleme und Perspektiven der hessischen Automobilzulieferer*, Rationalisierungskuratorium der Deutschen Wirtschaft, Eschborn.

Kombou L., Kochanski J., 1988. *Les créateurs d'entreprises, profils, comportements et conditions de création au cours de la période 1980-1987*, Paris, Agence Nationale pour la Création d'Emplois (ANCE).

Kotthoff H., 1993. Unternehmer sein, das lernt man nicht auf der Schule... Ökonomie, Organisation und Führung in mittelständischen Unternehmen. *In*: H.-D. Ganter, G. Shienstock, eds. *Management aus soziologischer Sicht. Unternehmungsführung, Industrie- und Organisationssoziologie*, Wiesbaden, Gabler, pp. 234-262.

Kotthoff H., Reindl J., 1990a. *Die soziale Welt kleiner Betriebe. Wirtschaften. Arbeiten und Leben im Mittelständischen Industriebetrieb*, Göttingen: Otto Schwarz & Co Verlag, 400 p.

Kotthoff H., Reindl J., 1990b. *Sozialordnung und Interessenvertretung in Klein- und Mittelbetrieben*, Vortrag auf der Konferenz 'Betriebliche Sozialverfassung unter Veränderungsdruck', Wissenschaftszentrum Berlin, June, duplicated, 16 p.

Kramer B., 1995. Umsetzung des Qualitätsanspruchs in der Weiterbildung im Handwerk. *In*: R. Neubert, H.-Ch. Steinborn, eds. *Ausbildung in kleinen und mittleren Unternehmen (KMU). Personal-Qualifizierung in den neuen Bundesländern*, Band 5, Bundesinstitut für Berufsbildung, pp. 15-24.

Kucera G., 1997. Der Beitrag des Mittelstandes zur volkswirtschaftlichen Humankapitalbildung unter besonderer Berücksichtigung des Handwerks. *In*: Ridinger R., ed. *Gesamtwirtschaftliche Funktionen des Mittelstandes*, Berlin: Duncker & Humblot, pp. 57-72.

Laferrère A., 1998. Devenir travailleur indépendant. *Economie et Statistique*, n° 319-320, 9/10, pp. 13-28.

Laget M., ed., 1994. *Système productif local. Petites entreprises et formation*, Céreq, CRPEE, CIA-céreq Montpellier, Les Cahiers de l'Economie Méridionale, n° 18, 233 p.

Lange C., Gros M., 1987. *Les PME-PMI et le conseil en gestion des ressources humaines et formation: analyse qualitative*, Paris, Délégation à la Formation Professionnelle, 46 p. + annexes.

Le Bas C., 1989. La stratégie d'automatisation de la PME: réflexions à partir d'études de cas. *Economies et sociétés*, tome XXIII, n° 1, January, pp. 165-185.

Le Bas C., Clerc A., 1988. *La PME face au défi productique. Pour une autre rationalité de la décision d'automatiser*, Lyon, PUL, coll. Economie des changements Technologiques, 212 p.

Lefresne F., 1998. Trajectoire d'insertion en France et au Royaume-Uni: une hypothèse de convergence. *Revue de l'IRES*, n° 28, Autumn, pp. 83-120.

Lefresne F., 1999. *Systèmes nationaux d'insertion professionnelle et politiques de l'emploi en direction des jeunes: une comparaison internationale*, Thèse de doctorat en Sciences Economiques, Université de paris I, Panthéon-Sorbonne, Paris, 585 p.

Lehmann K., Speckmann A., 1993. Qualifikationskooperation Nordenham. *In: Kooperationsmodell Nordenham, Abschlußbericht des Amtes für Wirtschaftsförderung*, Teil III, Nordenham.

Leicht R., 1995. *Die Prosperität kleiner Betriebe. Das längerfristige Wandlungsmuster von Betriebsgrößen und -strukturen*, Heidelberg: Physica Verlag. Universität Mannheim, Beiträge zur Mittelstandsforschung 3, 270 p.

Leicht R., 1997. Der Beschäftigungsbeitrag kleinerer Betriebe in längerfristiger Sicht. *In:* Ridinger R., ed. *Gesamtwirtschaftliche Funktionen des Mittelstandes*, Berlin: Duncker & Humblot, pp. 41-56.

Leicht R., Stockmann R., 1993. Die Kleinen – ganz groß? Der Wandel der Betriebsgrößenstruktur im Branchenvergleich. *Soziale Welt*, 2, pp. 242-274.

Leicht R., Strohmeyer R., 1995. *Der Beschäftigungsbeitrag des Aggregats kleiner Betriebe*, Veröffentlichungen des Instituts für

Mittelstandsforschung, Universität Mannheim, 50 p.

Leicht R., Strohmeyer R., 1998. Die Bedeutung von lokaler, individueller und professionneller Arbeit für die Persistenz kleiner Betriebe. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdeckung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 155-180.

Leicht R., Tur Castello J., 1998. *Qualifikation in Kleinbetrieben. Strukturen und längerfristige Entwicklungsmuster in Westdeutschland*, Veröffentlichungen des Instituts für Mittelstandsforschung, n° 33. Mannheim, 90 p.

Le Meur G., 1993. Dirigeants de PME: autodidaxie ou autopraxéologie? *Education Permanente*, n° 114, March, pp. 79-89.

Lipparini A., Lorenzoni G., 1996. Le organizzazioni ad alta intensita relazione. Riflessioni sui processi di leraning by interacting. *L'industria*, n° 4, October-December, pp. 817-839.

Lorenzo Gómez J.-D., Sánchez Pérez J., 1997. La pyme y el proceso estrategico. *In:* J.M. Santamaría Sánchez, R. Sánchez Ger, D. Almorza Gomar, eds. *La pequeña y mediana empresa desde una perspectiva jurídica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 151-162.

Love J.H., 1996. Entry and Exit: a county-level analysis. *Applied Economics*, vol. 28, pp. 441-451.

Loveman G., Sengenberger W., 1991. The re-emergence of small-scale production: an international comparison. *Small Business Economics*, 3, pp. 1-37.

Luber S., Gangl M., Leicht R., 1997. *Fehlende Kultur der Selbständigkeit? Selbständige Erwerbsarbeit in Deutschland im Vergleich mit anderen Industrieländern: Hintergründe des Süd-Nord-Gefälles.* Strukturbericht-Kurzinfo, Nr. 4, Institut für Mittelstandsforschung, Mannheim, 4 p.

Lutz B., 1986. Les problèmes de la formation professionnelle dans les petites et moyennes entreprises. *In*: I. Drexel, ed., Cedefop, *Problèmes de la formation dans les petites et moyennes entreprises. Rapport de séminaire*, Luxembourg: Office des Publications officielles des Communautés européennes, pp. 19-51.

Lynch L.-M., Black S.-E., 1998. Beyond the incidence of employer-provided training. *Industrial and Labor Relations Review*, October, n° 1, pp. 64-81.

Mac Bride G., Smith G., 1998. *L'état du système éducatif écossais*, Les Cahiers de l'Iretep, 2° semestre, n° 41, pp. 63-77.

Maeztu Herrera I., 1997. Ayudas y subvenciones a las pymes. *In:* J.M. Santamaría Sánchez, R. Sánchez Ger, D. Almorza Gomar, eds. *La pequeña y mediana empresa desde una perspectiva jurídica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 205-218.

Mahé de Boislandelle H., 1998-a. *Gestion des ressources humaines dans les PME*, 2nd edn., revised and enlarged, Paris, Economica, January, 490 p.

Mahé de Boislandelle H., 1998-b. GRH en PME. Universalité et contingences: essai de théorisation. *Revue Internationale P.M.E.*, **11** (2-3), pp. 11-30.

Mangolte P., 1997. La dynamique des connaissances tacites et articulées: une approche socio-cognitive. *Economie Appliquée*, Tome L, n°2, pp. 105-134.

Mansuy M., Thireau V., Joseph O., Martinelli D., 1999. *Quels secteurs pour les débutants?* Bref-Céreq, n° 153, May, 4 p.

Manz T., 1993. *Schöne neue Kleinbetriebswelt? Perspektiven kleiner und mittlerer Betriebe im industriellen Wandel*, Berlin, Ed. Sigma, 204 p.

Maqueda Lafuente F.J., 1992. *Dirección estratégica y planificación financiera de la PYME*, Madrid, Ediciones Diaz de Santos.

Marbach F., 1942. *Theorie des Mittelstandes*, Bern.

Marchand O., 1998. Salariat et non-salariat dans une perspective historique. *Economie et Statistique*, n° 319-320, 9/10, pp. 3-11.

Marchesnay M., 1986. La TPE comme adaptation à la crise. *In*: Chicha J., Joyal A., Julien P.-A., eds. *La PME dans un monde en mutation*, Sillery: Presses de l'Université du Québec, pp. 233-240.

Marchesnay M., Fourcade C., 1997. *Gestion de la PME/PMI*, Paris, Nathan, 317 p.

Margirier G., 1999. Italie. *In*: F. Aventur, M. Möbus, eds. *Formation professionnelle initiale et continue en Europe*. Paris: Magnard / Vuibert, enlarged edition, pp. 261-282.

Marshall A., 1906. *Principles of Economics*, London: MacMillan & Co.

Marshall A., 1919. *Industry and Trade*, London: MacMillan.

Marshall A., Marshall MP., 1891. *The Economics of industry*, London: MacMillan & Co.

Matlay H., 1996. *Paradox resolved? Owner/manager attitudes to, and actual provision of, training in the small business sector of the British economy*, Paper presented at 19th ISBA Conference, November, University of Birmingham.

Matlay H., 1997. The paradox of training in the small business sector of the British economy. *Journal of Vocational Education and Training*, **49** (4), pp. 573-589.

Maurice M., Eyraud F., D'Iribarne A., Rychener F., 1986. *Des entreprises en mutation dans la crise. Apprentissage des technologies flexibles et émergence de nouveaux acteurs*, Aix-en-Privence, LEST, duplicated, 459 p.

Maurin E., 1995. Les petites unités et la dynamique des emplois. *In*: Dares, *L'emploi et les relations sociales dans les PME*, Paris: Ministère du Travail et des Affaires Sociales / La Documentation Française, pp. 28-53.

McEvoy G.-M., 1984. Small business personnel practices. *Journal of Small Business Management*, October, pp. 1-8.

Meager N., 1992. The characteristics of self-employment: some Anglo-German comparisons. *In*: P. Leighton, A. Felstead, eds. *The New Entrepreneurs*, London, Kogan Page.

Meghnani S., 1992. *Conoscenza e competenza*, Turin: Loescher.

Meghnani S., 1995. De l'éducation des adultes à la formation des compétences. *In*: A. Jobert, C. Marry C., L. Tanguy. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris: A. Colin, Bibliothèque européenne des sciences de l'Education, pp. 333-354.

Méhaut P., 1999. Portugal. *In*: F. Aventur, M. Möbus, ed. *Formation professionnelle initiale et continue en Europe*, Paris: Magnard / Vuibert, enlarged edition, pp. pp. 349-364.

Melis A. (ed.), Gil Girones S., Allesch J., Preiss-Allesch D., 1993. *L'amélioration de l'accès des PME à la formation: stratégies de succès*, CEDEFOP Document, Berlin, 24 p.

Mendius H.-G., 1988. *Nutzung und Herstellung berufsfachlicher Qualifikation in Kleinbetrieben*, SAMF – Arbeitspapier 8, Paderborn.

Mendius, H.-G., 1991. Weiterbildungskooperation bei kleinen Zulieferbetrieben. *In*:: Manz, T., ed.. *Klein- und Mittelbetriebe im Prozeß industrieller Modernisierung*, Bonn.

Mendius H.-G., Sengenberger W., Weimer S., 1985. Anmerkungen zu: Wolfgang J.Steinle: 'Der Beitrag kleiner und mittlerer Unternehmen zur Beschäftigungsentwicklung', *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 18. Jg., Heft 1, pp. 153-157.

Mendras H., 1979. *Voyage au pays de l'utopie rustique*, Paris: ed. Actes Sud, 162 p.

(1980), *La sagesse et le désordre. France années 80*, Paris: Gallimard, 420 p.

Merle V., 1995. Recrutement et insertion dans les PME. *In*: Dares, *L'emploi et les relations sociales dans les PME*, Paris: Ministère du Travail et des Affaires Sociales / La Documentation Française, pp. 107-118.

Merle V., 1997. L'évolution des systèmes de validation et de certification. Quels modèles possibles et quels enjeux pour la France? *Formation Professionnelle*, Revue européenne, n° 12, September-December, III, pp. 37-49.

Meyer K.-U., Konietzka D., 1998. Formation professionnelle et débuts de carrière: crise ou stabilité du modèle allemand? *Revue Française de Sociologie*, April-June, vol. XXXIX, n° 2, pp. 269-304.

Mingione E., 1992. Aspetti sociali della disoccupazione: dalla disoccupazione industriale classica alla moltiplicità della disoccupazione odierna. *In*: P. Calza Bini, ed., *La disoccupazione: interpretazioni e punti di vista*, Naples, Liguori

Mintzberg H., 1982. *Structure et dynamique des organisations*. Paris, Edit. d'Organisation, 434 p.

Moati P., Pouquet L., 1996. *L'évolution de l'emploi dans l'industrie manufacturière française: les déterminants sectoriels et micro-économiques*, Crédoc, Cahier de recherche, n° 92, June, 160 p.

Moati P., Pouquet L., Leborgne M., 1997. *Les nouvelles logiques productives dans les PMI: déterminants et impact sur les performances*, Crédoc, Départ. 'dynamique des marchés'. Rapport, January, 201 p.

Moati Ph., Loire S., Médan P., 1997. *Démographie des entreprises: une revue de la littérature*, Crédoc, Cahier de recherche, n° 108, October, 102 p.

Modrow-Thiel B., Roßmann G., Wächter H., 1993. *Chancen und Barrieren menschengerechter Arbeit in Klein- und Mittelbetrieben*, München: Mering.

Monchois X., Bonneau J., 1996. Les créations d'entreprises du premier semestre 1994. *Insee Résultats*, coll. Système Productif, n° 97-98, March, 333 p.

Montoya Sánchez Ma. S., 1997. La participacion de la pymes en la economia espagnola. *In:* J.M. Santamaria Sánchez, R. Sánchez Ger, D. Almorza Gomar, eds. *La pequeña y mediana empresa desde una perspectiva juridica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 131-150.

Moralee L., 1998. Self-employment in the 1990s. *Labour Market Trends*, March, **106** (3), pp. 121-130.

Morvan Y., 1985. *Fondements d'économie industrielle*, Paris, Economica, coll. 'Gestion', 482 p.

Moule C., 1998. Regulation of work in small firms: a view from the inside. *Work Employment and Society*, **12** (4), December, pp. 635-653.

Mouriaux M.-F., 1994. Nouvelles entreprises: des emplois créés, déplacés ou sauvegardés? *Travail et Emploi*, n° 58, January, pp. 25-37.

Müller H.-E., 1997. In Sicherheit wachsen. Downsizing, die Verkleinerung der Stammbelegschaften, stößt an Grenzen. *Die Mitbestimmung*, 5, pp. 25-26.

Neck P.A, Nelson R.E. ed., 1987. *Small enterprise development: policies and programmes*, Geneva, International Labor Office, second (revised) edition, coll. 'Management Development Series', n° 14, 282 p.

Nerlinger E., 1998. Innovative Unternehmensgründungen in Deutschland: Ein Überblick über aktuelle Forschungsergebnisse und Trends. *In*: D. Bögenhold, D. Schmidt, eds. *Eine neue Gründerzeit? Die Wiederentdekkung kleiner Unternehmen in Theorie und Praxis*, GIB Verlag Fakultas, Gründungsforschung, Band 1, pp. 111-136.

Nicole-Drancourt C., Roulleau-Berger L., 1995. *L'insertion des jeunes en France*, Paris, PUF, «Que sais-je?» n° 2 977, 127 p.

North J., Blackburn R., Curran J., 1998. *Quality Issues and Smaller Firms*, London, Routledge, 234 p.

North D., Smallbone D., Leigh R., 1994. Employment and labour process changes in manufacturing SMEs during the 1980s. *In*: J. Atkinson, D. Storey, eds. *Employment, the small firm and the labour market*, London, Routledge, pp. 206-255.

Nove A., Smith N., Stallwood N., 1995. *Skill needs of small firms in Britain 1994/95*, High Wycombe and Sheffield, Public Attitude Surveys for the Employment Department, May.

Oakey R., 1991. High Technology small firms: their potential for rapid industrial growth. *International Small Business Journal*, 9, pp. 30-42.

OECD, 1996a. *Job creation and loss. Analysis, policy, and data development*, Paris, OECD documents, 161 p.

OECD, 1996b. *SMEs: Employment, Innovation and Growth*. The Washington Workshop, Paris, 77 p.

OECD, 1996c. *Réconcilier l'économique et le social*, Paris, OCDE, 'Développement territorial', 237 p.

OECD, 1996d. *SME Best Practice Working Party Report*, Paris, pp. 153-169.

OECD, 1996e. *Réseaux d'entreprises et développement local*, Paris, 1996.

OECD, 1998a. *Stimuler l'esprit d'entreprise*, Paris, 317 p.

OECD, 1998b. *Les meilleures politiques pour les petites et moyennes entreprises*, 1997 edition, Paris, 140 p.

OECD, 1998c. *Small Business. Job creation and Growth: Facts, Obstacles and Best Practices*, Paris.

OECD, 1998d. *L'investissement dans le capital humain. Une comparaison internationale*, Paris, Centre pour la Recherche et l'Innovation dans l'Enseignement, 121 p.

OECD, 1998e. *Les meilleures politiques pour les petites et moyennes entreprises: édition 1997*, Paris, February, 142 p.

Oulton N., Hart P.-E., 1996. Growth and size of firm. *Economic Journal*, September, pp. 1242-1252.

Paci M., 1979. Riflessioni sui fattori sociali dello sviluppo della piccola impresa nelle Marche. *Economia Marche*, n° 6.

Paci M., ed., 1980., *Famiglia e mercato del lavoro in un'economia periferica*, Milan: Franco Angeli.

Paci M., 1999. Alle origini della imprenditorialità e della fiducia interpersonal nelle aree ad economia diffusa. *Sociologia del Lavoro* (forthcoming).

Palazzeschi Y., 1998. *Introduction à une sociologie de la formation. Anthologie de textes français 1944-1994. Vol. 1: Les pratiques constituantes et les modèles; vol. 2. Les évolutions contemporaines*, Paris: l'Harmattan, coll. «Education et formation, série Références», 267p. et 548 p.

Para J.-C. (dir.), Cervera J., Gómez J.-J., 1995. *9° Estudio Socio Laboral de la Pyme*, Madrid: Prodemsa, S.A., 91 p. + annexo.

Parent M.-C., 1995-a. Les PME françaises. Evolutions d'emploi 1985-1992. *Document de travail de la Direction des Statistiques d'Entreprises*, n° E 9504, INSEE, 14 p.

Parent M-C., 1995-b. Une base longitudinale de données d'entreprises: problèmes et résultats. *IVèmes Journées de Méthodologie Statistique*, 18 et 19 octobre, INSEE, 29 p.

Parker K.-T., Vickerstaff S., 1996. TECs, LECs and small firms: differences in provision and performance. *Environment and Planning C: Government and Policy*, vol. 14, pp. 151-267.

Patt D., Gerwin W., Hoppe M., 1998. *Kooperieren und Qualifizieren im Handwerk. Vorgestellt am Beispiel der Versorgungstechnik*, Bundesinstitut für Berufsbildung, Bielefeld: Bertelsmann Verlag GmbH, 217 p.

Paturel R., Barriol N., 1999. Les PME et la qualité: diffuser l'innovation en gestion grâce à une démarche collective. *Revue française de Gestion*, n° 122, January-February, pp. 61-71.

Paulini M., 1997. Gesamtwirtschaftliche Bedeutung von Existenzgründungen. *In*: Ridinger R., ed. *Gesamtwirtschaftliche Funktionen des Mittelstandes*, Berlin: Duncker & Humblot, pp. 27-40.

Paulsen B., 1992. Arbeitsorientiertes Lernen/Lernorientiertes Arbeiten. Eine Strategie für die Weiterbildung in KMU. *In*: Paulsen B., Worschech F., ed. *Arbeitsorientierte Weiterbildung für KMU. Strategien, Konzepte, Methoden*, Eurotechnet, Brüssel/Berlin, pp. 93-104.

Pérez González C., 1997. Las pymes españolas en la Union Europea. *In:* Santamaría Sánchez J. M., Sánchez Ger R., Almorza Gomar D., eds. *La pequeña y mediana empresa desde una perspectiva jurídica, económica y laboral*, Universidad de Cádiz, servicio de publicaciones, pp. 117- 130.

Pérot Y., Simon-Zarca G., 1998. *Apprentissage. De nouveaux parcours de formation*. Bref-Céreq, n° 139, February.

Perrien C., 1994. La formation continue des dirigeants de PME/PMI: pour une approche sociologique de l'action. *Education Permanente*, n° 118, pp. 119-131.

Pettigrew A., Arthur M.B., Hendry C., 1990. *Training and Human Resource Management in small to medium size enterprises: a critical review of the literature and a model for future research*, Sheffield: Training Agency.

Pfeiffer B., 1997. Das Ausbildungsangebot der westdeutschen Betriebe 1995 – Ergebnisse des IAB-Betriebs- Panels -. *Berufsbildung in Wissenschaft und Praxis*, No. 2, March/ April, pp. 10-16.

Pfohl H.-C., Kellerwessel P., 1990. Abgrenzung der Klein- und Mittelbetriebe von Großbetrieben. *In*: H.-C. Pfohl, ed. *Betriebswirtschaftslehre der Mittel- und Kleinbetriebe. Größenspezifische Probleme und Möglichkeiten zu ihrer Lösung*, Berlin, pp. 1-23.

Piore M.-J., Sabel C.F., 1984. *The second industrial divide: possibilities for prosperity*, New York.

Plane J.-M., 1998. Pour une approche ethnométhodologique de la PME. *Revue Internationale P.M.E*, **11** (1), pp. 123-140.

Podevin G., 1990. Mobilité interne, promotions et renouvellement de la main-d'œuvre. *Travail et Emploi*, n° 46, 4/90.

Podevin G., 1994. *Le renouvellement des emplois: recruter ou promouvoir*. Céreq-Bref, n° 96, March, 4 p.

Porter M.E., 1980. *Competitive strategy*, New York: Free Press.

Porter M.E., 1985. *Competitive advantage*, New York: Free Press.

Pruvost F., 1998. *Les relations sociales et les conditions de travail dans les petites et moyennes entreprises*, Iseres, Ires, Etudes et Recherches n° 168, February, 144 p.

Pugh D.S., Hickson D.J., Hinings C.R., Turner C., 1968. Dimensions of organization structure. *Administrative Science Quarterly*, **13** (1), pp. 65-105.

Pugh D.S., Hickson D.J., Hinings C.R., 1969. An empirical taxonomy of structure of work organizations. *Administrative Science Quarterly*, vol. 14, pp. 115-126.

Pugliese E., 1993. *Sociologia della disoccupazione*, Bologna, Il Mulino.

Pugliese E., Altieri G., 1990. Tre Italie, due disoccupazioni. *Inchiesta*, n° 83-84.

Pyke F., Becattini G., Sengenberger W., eds., 1990. *Industrial districts and inter-firm co-operation in Italy*, Geneva, ILO.

Pyke F., 1994. *Small firms, technical services and inter-firm cooperation*, BIT, International Institute for Labour Studies, Research series, n° 99, 126 p.

Rainbird H., 1995. La construction sociale de la qualification. *In*: Jobert A., Marry C., Tanguy L., eds. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, Bibliothèque européenne des sciences de l'Education, pp. 231-249.

Rainnie A., 1989. *Industrial relations in small firms: small isn't beautiful*, London: Routledge.

Ram M., 1994. *Managing to survive: working lives in small firms*, Oxford: Blackwell.

Raveyre M., 1988. *Jeu de miroirs. L'aide de St Gobain développement aux PME*, Rapport, Lyon, Glysi-CNRS.

Raveyre M., 1999. *De nouveaux acteurs pour le développement local des grandes entreprises*, rapport, CEE / Gip-Mi.

Reid G.C., 1993. *Small business enterprise. An economic analysis*, London: Routledge, 327 p.

Reid G.C., Jacobsen L.R., Anderson M.E., 1993. *Profiles in small business. A competitive strategy approach*, London: Routledge, 211 p.

Reindl J., Fecht M., 1999. *Literaturdokumentation zum Themenkreis: KMU, Beschäftigung und berufliche Bildung*. Saarbrücken, ISO-Institut, duplicated, 23 p.

Reynolds P., Storey D., 1993. Déterminants régionaux de la création de petites entreprises. *Cahier Ile*, n° 18, Paris, OCDE.

Ridinger R., ed., 1997. *Gesamtwirtschaftliche Funktionen des Mittelstandes*, Berlin: Duncker & Humblot, 109 p.

Ridinger R., 1997. Rolle gesamtwirtschaftlicher Funktionen kleiner und mittlerer Unternehmen in politischen Entscheidungsprozessen auf nationaler und europäischer Ebene. *In*: Ridinger R., ed. *Gesamtwirtschaftliche Funktionen des Mittelstandes*, Berlin: Duncker & Humblot, pp. 13-26.

Robinson P., 1996. *Rhetoric and reality: the evolution of the new vocational qualifications*, London School of Economics, Centre for Economic Performance.

Robson G.B., Gallagher C., 1994. Change in the size distribution of UK firms. *Small Business Economics*, **6** (4), pp. 299-312.

Rosanvallon A., 1986. *Systèmes flexibles de production et organisation du travail*, Grenoble, IREP-D, Symposium des Communautés Européennes, July, 25 p.

Rosanvallon P., 1976. *L'âge de l'autogestion*, Paris, Seuil, 'Points', 185 p.

Rosanvallon P., 1980. Le développement de l'économie souterraine et l'avenir des sociétés industrielles. *Le Débat*, n° 2, June, pp. 15-27.

Rosanvallon A., 1990. Les politiques de formation dans les PME-PMI françaises: l'émergence de pratiques modernes. *Revue internationale PME*, **3** (1), pp. 75-87.

Rose J., 1998. *Les jeunes et l'emploi*, Paris: Desclée de Brouwer, 260 p.

Roulleau-Berger L., Chappuis L., Houssein A. et al., 1997. *Les mondes de la petite production urbaine*, Aix-en-Provence, LEST-CNRS, July, 241 p.

Ruano S., 1997. *Creación y destrucción bruta de empleo en las empresas industriales españolas*, Madrid, Fundaciòn Empresa Pública, Documento de trabajo 9708, November, 51 p.

Rullani E., Romano L., 1998. *Il postfordismo. Idee per i capitalismo prossimo venturo*, Milan: Etaslibri.

Saba A., 1995. *Il modello italiano. La «specializzazzione flessibile» e i distretti industriali*, Milan, Franco Angeli.

Saget F., 1989. Le partenariat PME-grandes Entreprises: quel contenu? Quelle évolution? *In:* Commission des Communautés Européennes, DG XXIII, TII. European Association, *Partnership between small and large firms*, London, Graham and Trotman, 374 p. 49-65.

Saglio J., 1995. S'intéresser aux PME: quelques enjeux. *In*: Dares. *L'emploi et les relations sociales dans les PME*, Paris: Ministère du Travail et des Affaires Sociales / La Documentation Française, pp. 14-23.

Sammut S., 1998. Comment aider les petites entreprises jeunes? *Revue Française de Gestion*, November-December, pp. 28-41.

Sanchez R., 1999-a. Le redéploiement de l'apprentissage vers des secteurs d'activité moins traditionnels se poursuit en 1998. *Premières Synthèses*, Dares, 99.12 – n° 49.2, 6 p.

Sanchez R., 1999-b. Formation en alternance: le développement des contrats de qualification, d'adaptation et d'orientation se poursuit en 1998. *Premières Synthèses*, Dares, 99.11 – 47.3., 12 p.

Santelmann P., ed., 1999. La formation professionnelle continue. Bilan et perspectives, *Problèmes Politiques et Sociaux*, n° 819, 2 April, 79 p.

Saporta B., 1994. La création d'entreprises: enjeux et perspectives. *Revue Française de Gestion*, November-December, pp. 74-86).

Savoye B., 1994. La taille des entreprises, élément structurant du système productif; analyses françaises et communautaire. *Revue d'économie industrielle*, n° 67, 1st quarter.

Scheuch E.K., 1976. Die Bedeutung kleiner und mittlerer Betriebe für die Sozialordnung einer modernen Industriegesellschaft. *In*: K.H. Oppenländer, ed. *Die gesamtwirtschaftliche Funktion kleiner und mittlerer Unternehmen*, Munich, pp. 303-327.

Schmid G., 1998. *Transitional labour markets: a new European employment strategy*, Berlin, FSI, 98-206, Discussion Paper, October, 39 p.

Schmid G., Gazier B.,eds., 1999. *Employment systems in transition: social integration by transitional labour markets* (forthcoming).

Schmidt K.H., 1984-a. *Die Mobilität von Facharbeitskräften kleiner und mittlerer Unternehmen*, Göttingen.

Schmidt K.H., 1984-b. Employment effects of new technologies in small businesses. *International Small Business Journal*, **3** (1), pp. 34-44.

Schmidt K.H., 1986. Innovative factors and smaller sized firms. CEE, *Nuovi sistemi di produzione. Conseguenze sul lavoro e la formazione nella fabbrica del futuro, Symposium des Communautés européennes, Turin, 2-4 July*, 22 p.

Schmidt N., 1989. Créations d'entreprises et créations d'emplois. *La Lettre d'Information du CEE*, n° 13, September, 8 p.

Schmidt A.-G. Von, 1996. Der überproportionale Beitrag kleiner und mittlerer Unternehmen zur Beschäftigungsdynamik: Realität oder Fehlinterpretation von Statistiken? *Zeitschrift für Betriebswirtschaft*, July, pp. 537-556.

Schömann K., 1995. Marchés du travail et dynamique des mobilités professionnelles. *In*: A. Jobert, C. Marry, L. Tanguy. *Education et travail en Grande-Bretagne, Allemagne et Italie*, Paris, A. Colin, Bibliothèque européenne des sciences de l'Education, pp. 125-147.

Schumacher E.-F., 1978. *Small is beautiful. Une société à la mesure de l'homme*, Paris: Seuil, (French edition), 305 p.

Schumpeter J.-A., 1979, (German edition: 1934), Capitalisme, socialisme et démocratie, Paris: Payot.

Schumpeter J.-A. (French edition: 1935), *Théorie de l'évolution économique*, Paris, Dalloz.

Scott M., Roberts I., Holroyd G., Sawbridge D., 1989. Management and industrial relations in small firms. Department of Employment, *Research Paper*, n° 70.

Selden J., 1998. Small and medium entreprises. Their role in the economy. *Labour Market Trends*, October, **106** (10), pp. 511-518.

Semlinger K., 1995. *Arbeitsmarktpolitik für Existenzgründer. Plädoyer für eine arbeitsmarktpolitische Unterstützung des Existenzgründungsgeschehens*, Discussion Paper FS I 95-204, Wissenschaftszentrum Berlin für Sozialforschung, 67 p.

Sengenberger W. von, 1988. Mehr Beschäftigung in Klein- und Mittelbetrieben: ein Flexibilitätsgewinn? *WSI Mitteilungen*, 8, pp. 493-501.

Sengenberger W., Loveman G.-W., Piore M.-J., 1990. *The reemergence of small enterprises: industrial restructuring in industrialised countries*, Geneva, International Labour Organisation.

Serfaty E., Delame E., 1991. Les formations non déclarées: complément ou alternative aux formations déclarés. *Formation Emploi*, n° 34, La Documentation Française.

Serra Peris J.-M., 1996. La pyme industrial en el nuevo modelo de crecimiento. *Economia Industrial*, n° 310, pp. 21-28.

Sessi, 1995. *Les chiffres clés des PMI*, Paris, Ministère de l'Industrie, 343 p.

Sessi, 1999. *L'état des PMI*, Paris, Ministère de l'Industrie, 311p.

Shutt J., Whittington R., 1987. Fragmentation strategies and the rise of small units. *Regional Studies*, **21** (1), pp. 13-23.

Simons R., 1997. Klein, aber weltweit. Charakteristika erfolgreicher Klein- und Mittelunternehmen. *Die Bestimmung*, 5, pp. 493-501.

Solinas G., 1982. Labour market segmentation and worker career: the case of the Italian knitwear industry. *Cambridge Journal of Economics* (6), pp. 351-352.

Solinas G., 1996. *I processi di formazione, la crescita e la sopravivenza delle piccole imprese*, prefazione di Brusco S., Milan, Franco Angeli, «Problemi dello sviluppo industriale» (430-22), 310 p.

Sombart W., 1929. *Das Gewerbe im Zeitalter des Hochkapitalismus*, Gewerbewesen, vol. 2, 2nd edn., Berlin.

Sorge A., 1996. Kleinbetriebe. Entstehung, Bestandsbedingungen und Entwicklungspotentiale. *In*: B. Lutz et al., eds. *Arbeit, Arbeitsmarkt und Betriebe*, Opladen, pp. 347-393.

Stanworth J., 1988. *Socioeconomic factors in franchising*, Paper presented at Worldwide Economic Situations and Franchising Development Conference, Pisa, Italy.

Stanworth J., Purdy D., 1994. *The Blenheim / University of Westminster Franchise Survey n° 1*, London, International Franchise Research Centre, University of Westminster.

Steinle W.-J., 1984. Der Beitrag kleiner und mittlerer Unternehmen zur Beschäftigungsentwicklung. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 17 Jg., Heft 2, pp.257-266.

Stockmann R., V. Bardeleben R., 1993. *Berufliche Weiterbildung. Tips für Klein- und Mittelbetriebe*, Bundesinstitut für Berufsbildung, Berlin.

Storey D., 1988. The role of small and medium-sized enterprises in European job creation: key issues for policy and research. *In*: M. Giaiutzi, P. Nijkamp, D. Storey, eds. *Small and medium size enterprises and regional development*, London: Routledge.

Storey D., 1995. *Innovation and industry evolution*, Cambridge, The MIT Press.

Storey D.J., 1994. *Understanding the small business sector*, London, Routledge.

Storey D.J., Johnson S., 1986. Job generation in Britain, a review of recent studies. *International Small Business Journal*, **4** (4), pp. 29-46.

Storey D.J., Johnson S., 1987a. *Job generation and labour market change*, London: Macmillan.

Storey D.J., Johnson S., 1987b. *Small and medium-sized enterprises and employment creation in the EEC countries: summary report*, Commission of the European Communities, Programme of Research and Actions on the Development of the Labour Market, study n° 85/407.

Storey D.J., Keasey K., Watson R. and Wynarczyk P., 1987. *The performance of small firms*, London: Croom Helm.

Storey D.J., Westhead P., 1994. *Management development in small- and medium-sized enterprises with growth potential*, London, Confederation of British Industry.

Streeck W., 1986. *Kollektive Arbeitsbeziehungen und industrieller Wandel: das Beispiel der Automobilindustrie*, Discussion Paper des Wissenschaftszentrums Berlin, IIM/LMP, 86-2, Berlin.

Strohmeyer R., 1998. *Berufsbildung, Verwertbarkeit und Mobilität. Zur Situation im Handwerk und in Kleinbetrieben, Werkstattheft zur Strukturberichterstattung*, Institut für Mittelstandsforschung der Universität Mannheim, 2 (forthcoming).

Tanguy L., ed., 1986. *L'introuvable relation formation-emploi. Un état des recherches en France*, Paris: La Documentation Française, 302 p.

Tanguy L., 1994. La formation, une activité sociale en voie de définition. *In*: M. de Coster, F. Pichault, *Traité de sociologie du travail*, Bruxelles, De Boeck Université, pp. 169-196.

Thom N., 1990. Le développement du personnel, instrument du développement de l'entreprise moyenne. *Revue Française de Gestion*, n° 77, January-February, pp. 45-53.

Torrès O., 1997. Pour une approche contingente de la spécificité de la PME. *Revue Internationale PME*, **10** (2), pp. 9-43.

Torrès O., ed., 1998. *PME. De nouvelles approches*, Paris, Economica, 187 p.

Toulemon L., 1998. Situation professionnelle et comportements familiaux des indépendants. *Economie et Statistique*, n° 319-320, 9/10, pp. 29-51.

Training Commission, 1989. *TECs: a prospectus for the 1990s*, Department of Employment Group, Sheffield, Training Commission.

Treu T., 1997. La riforma della formazione professionale. *Inchiesta*, n° 116, Formazione per tutti per tutto l'arco della vita, pp. 27-29.

Trigilia C., 1986. Small firm developments and political subcultures in Italy. *European Sociological Review*, 2, pp. 161-175.

Trigilia C., 1998. Le régionalisme en Italie. *Problèmes Economiques*, n° 2 581, September, pp. 30-32.

Trouvé P., 1989. Entreprendre à Thiers. Approche sociologique des pratiques récentes'. In: *Pays de Thiers, le Regard et la Mémoire*. Clermont-Fd, Université Blaise Pascal, Institut d'Etudes du Massif Central, chapitre 26, pp. 523-553.

Trouvé P., 1995. Trajectoires et filières professionnelles dans les PME et les grandes entreprises. Examen de quelques travaux récents. In: Dares, *L'emploi et les relations sociales dans les PME*, Paris, Ministère du Travail et des Affaires Sociales / La Documentation Française, pp. 138-192.

Trouvé P., 1996a. *Note sur l'insertion professionnelle et les conditions d'emploi des jeunes débutants dans les TPE et PME*, Dares, duplicated internal doc., 28 November, 4 p.

Trouvé P., 1996b. L'éternelle 'professionnalisation' des formations initiales en France. *In*: S. Roussillon, F. Bournois, J-Y. Le Louarn, eds. *Les enjeux de l'emploi: société, entreprises et individus*, CNRS, coll. 'Programme Rhône-Alpes Recherches en Sciences Humaines', 1996, pp. 227-246.

Trouvé P., 1999. *Stratégies concurrentielles et gestion des emplois dans les PME. Un état de la littérature*, Dares, Ministère de l'Emploi et de la solidarité, 'Documents d'études', n° 26, April, 57 p.

Vacà S., 1995. *L'impresa trasnazionale tra passato e futuro*, Milan, Franco Angeli.

Varaldo R., Ferruci L., 1997. *Il distretto industriale tra logiche di impresa e logiche di sistema*, Milan, Franco Angeli.

Varyam J.N., Kraybill D.S, 1992. Empirical evidence on determinants of firm growth. *Economic Letters*, 38, pp. 31-36.

Vaughan P., 1993. *Research series: 12. TECs and employers developing effective links part 1: a survey*. Employment Department, Moorfoot, Sheffield S10 4PQ.

Vaughan P., Beinart S., Smith P., 1998. National adult learning survey 1997: learners and non-learners, the evidence. *Labour Market Trends*, March, **106** (3), pp. 131-140.

Veltz P., 1997. *Les organisations cellulaires en réseau: portée et limites d'une mutation*. Communication aux VIèmes Journées de Sociologie du Travail, 5-7 November, Université Libre de Bruxelles.

Verdier E., 1987. Incitation publique, mutualisations et comportements privés: le cas de la formation continue. *Formation Emploi*, n° 20, October-December, pp. 31-44.

Verdier E., 1990a. *Formation continue, PME et changement industriel. Un éclairage sur le cas de la France*, Céreq, Contribution au Congrès international d'Alicante sur «les petites entreprises dans le contexte européen. 21-23 February, 23 p.

Verdier E., 1990b. L'efficacité de la formation continue dans les PME. *Sociologie du Travail*, XXXII, 3/90, pp. 295-320.

Verdier E., 1990c. La formation peut-elle être une ressource pour les PME? *Partenaires*. Supplément Dialogue Social au n° 3, April, pp. 21-22.

Verdier E., 1991. Les PME acteurs spécifiques de la formation? *Actualité de la Formation Permanente*, n° 114, September-October, pp.42-47.

Verdier E., 1999. Le dispositif français à la croisée des chemins. *La Revue de la CFDT*, August-September, n° 22-23, pp. 10-19.

Vernières M., ed., 1997. *L'insertion professionnelle. Analyses et débats*, Paris: Economica, 197 p.

Vernières M., *Formation Emploi, enjeu économique et social*, Paris: éd. Cujas.

Vickerstaff S., 1992. The training needs of small firms. *Human Resource Management Journal*, 2, pp. 1-15.

Vickerstaff S., 1998. The delivery of Modern Apprenticeships: are Training and Enterprise Councils the right mechanism? *Journal of Vocational Education and Training*, **50** (2), pp. 209-224.

Vickerstaff S., Parker K.-T., 1995. Helping small firms: the contribution of TECs and LECs. *International Small Business Journal*, July-Sept., **13** (4), pp. 56-73.

Viennet H., 1988. Qui crée une entreprise ou reprend une affaire? *Economie et Statistique*, n° 215, November.

Von Bardeleben R., Troltsch K., 1995. Betriebliche Ausbildung auf dem Rückzug? Entwicklung der Ausbildungsbeteiligung von Betrieben im Zeitraum von 1985 bis 1995. *Berufsbildung in Wissenschaft und Praxis*, No. 5, September/October, pp. 9-16.

Wagner J., 1997a. *Analysen der Arbeitsplatzdynamik mit Betriebspaneldaten aus der amtlichen Industrieberichterstattung. Möglichkeiten und Grenzen*, Arbeitsbericht n° 168 des Fachbereichs Wirtschafts- und Sozialwissenschaften der Universität Lüneburg.

Wagner J., 1997b. Firm size and job quality: a survey of evidence from Germany. *Small Business Economics*, **9** (5), pp. 411-425.

Weitzel G., 1986. *Beschäftigungswirkungen von Existenzgründungen*, München.

Westhead P., Birley S., 1995. Employment growth in new independent owner-managed firms in Great Britain. *International Small Business Journal*, Apr-Jun, **13** (3), pp. 11-35.

Westhead P., Storey D.-J., 1996. Management training and small firm performance: why is the link so weak? *International Small Business Journal*, July-Sep., **14** (4), pp. 13-25.

Williams S., Raggatt P., 1998. Contextualising public policy in vocational education and training: the origins of competence-based vocational qualifications policy in the UK. *Journal of Education and Work*, **11** (3), October, pp. 275-292.

Winter S.G., 1984. Schumpeterian competition in alternative technological regime. *Journal of Economic Behavior and Organization*, vol. 5, pp. 278-320.

Wittstock M., 1990. Neue Informations- und Kommunikationstechnologien in Kleinbetrieben. *In*: J. Berger, V. Domeyer, M. Funder, eds. *Kleinbetriebe im Wirtschaftlichen Wandel*, Frankfurt/Main, pp. 181-192.

Zarca B., 1986. *L'artisanat français, du métier traditionnel au groupe social*, Paris: Economica, 290 p.

Zedler R., 1994. Le rôle des partenaires sociaux dans l'insertion des jeunes dans le monde du travail: l'exemple de la République Fédérale. *Revue Européenne de Formation Professionnelle*, 2/94, pp. 53-58.

Human resource development in Europe – at the crossroads

Barry Nyhan

Abstract

This paper examines the concept and practice of human resource development (HRD) from a European perspective. It locates HRD, which is seen to refer specifically to learning, training and development activities, within the context of underlying people management theories (human resource management – HRM) or what can be termed as 'industrial or working life cultures'. The paper contrasts two theories of HRD derived from different ways of conceiving human resource management. The one that has more in common with classical European industrial values is the humanistic-developmental tradition. The competing model, which it is argued is growing in prominence in Europe, is the instrumental-utilitarian way of looking at human resources. The paper concludes that Europe is at the crossroads at the moment in its search for a signpost leading it to human resource management practices that are socially sustainable.

663

Table of contents

1. **Introduction** 235

2. **New ways of organising work** 235
2.1 Humanistic-developmental tradition 237
2.2 From a 'personnel management' to a 'human resource management' perspective 237

3. **HRD and competence development** 238
3.1 Learning organisation 238
3.2 Level of implementation 239

4. **HRD in Europe** 240
4.1 European industrial/working life cultural traditions 240
4.2 Europe and humanistic-developmental HRD 241

5. **A competing human resource strategy** 243

6. **Future direction for HRD in Europe** 245

7. **Bibliography** 247

670

1. Introduction

The term 'human resource development' (HRD) refers to educational training and development activities related to working life. Although it is often used in a very wide sense to refer to all work related learning activities, more accurately, it relates to development and learning activities of those who are at work and have completed their basic vocational or professional education and training. These activities are often referred to also as continuing vocational training (CVT). However, HRD is not a stand-alone concept, but is derived from theories of 'human resource management' (HRM; see Box 1 for notes on key terms used in this paper).

This paper firstly looks at the emergence of 'human resource management' strategies in the context of the challenges facing European companies. It traces the origins of the internationally influential Harvard 'Human Resource Management model' which espouses humanistic-development principles. This model gives a high priority to generative human development and learning activities as a prerequisite for long term business success. In raising the question – is there a distinctive European HRD model – the paper examines the values and policies underlying what can be loosely called a European industrial/working life and vocational education training culture in relation to the above international model. The effects of the emergence of a competing utilitarian and instrumental model of HRM radically challenging the one above, are then examined. This latter model of HRM inspired by neo-tayloristic work organisation principles and neo liberal economics portrays 'human resource development' as a contingent activity shaped mainly by environmental factors. The paper concludes by discussing the future direction of HRD strategies in the context of building a socially sustainable industrial/ working life society in Europe.

2. New ways of organising work

Over the last fifteen or so years European companies have had to radically revise their attitudes to work organisation – 'human resource management' – in order to respond to the dramatic changes taking place in both the global and European business environments. These challenges have been outlined in countless publications, but just to recall them, four of the major change factors are briefly summarised here.

1. Firstly, world business has witnessed a major decrease in markets for mass produced goods and a significant increase in demand for more customised 'high quality' goods;

2. secondly, the globalisation of world trade has threatened the competitiveness of European industries;

3. thirdly the creation of the Single European Market on the one hand, and the opening up of a market economy in the eastern parts of Europe on the other hand, have forced all European companies to rethink their work organisation strategies;

4. fourthly advances in Information and Communication Technologies have raised questions about investment in and use of these technologies and the work organisation implications in introducing them.

In response to these new challenges companies began to adopt new more 'flexible' (both internal and external) types of work organisation which are reflected in new forms of a workforce management strategies and became known as 'human resource management' strategies (see Sparrow and Hiltrop 1994; Miles and Snow 1984). These theories of HRM entailed the abandonment of centralised bureaucratic work production strategies – according to which everyone had a clearly designed function, suited to an age of sustained mass production – and the adoption of a new organic workforce model which devolved wider responsibilities (both vertically and horizontally) to employees, although excluding financial control which tended to continue to be centralised. This entailed putting a heavy emphasis on HRD practices such as team building, multi-

Box 1: Notes on key terms

The terms elaborated below are interpreted by authors in many different ways. The practice often determines the theory. Below, these terms are described as they are used in this paper.

Industrial/working life cultural traditions

This refers to the guiding principles and assumptions according to which a society or a company/institution designs its work organisation and work management systems (Taylorism, for example, forms an industrial/working life cultural tradition.

Personnel management

This term which is now giving way more and more to 'human resource management' (HRM) refers to a specialist function or department within companies (or workplaces) dealing with the building of efficient and satisfactory (just) working systems from the human perspective. Initially 'personnel management' had more of a reformist purpose counterbalancing the excesses introduced by mass industrialisation. Beginning with a concern for promoting social welfare and fair employment practices, it took on board 'scientific management' practices and 'human relations' concepts.

Typical activities undertaken are:

Recruitment and selection, training and development, performance appraisal, industrial relations, compensation and benefits and health and safety.

Human resource management (HRM)

This represents a transformation of the 'personnel management' function from being an ancillary service to senior management to that of a strategic influencing role under the responsibility of a director who is a co-equal board member. Instead of being a separate and specialist (and often a kind of occasional) function the management of human resources becomes an embedded company strategy and the concern of all line management who must carry out activities formerly passed on to personnel management.

Human resources development (HRD)

This can be interpreted in a wide or in a narrow sense. For some commentators HRD is almost synonymous with HRM. More commonly however, HRD refers to learning and competence development actions, although these are integrated with other HRM actions and have an organisational learning and developmental form as much as an individualistic one.

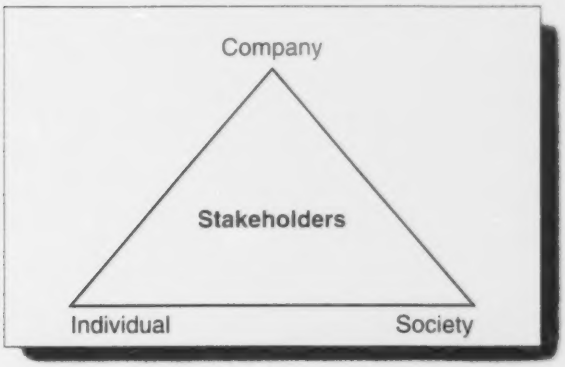
Continuing vocational training (CVT)

This is another term used which is closely related to HRD but can have a wide or a narrow meaning. Ant et al. (1996) adopt a non restrictive definition in their review of continuing vocational training in Europe taking it to cover more or less the same ground as HRD. A narrow interpretation of CVT restricts it to training activities at craft or worker level excluding management development and organisational learning actions.

skilling, work based learning in order to promote greater degrees of functional flexibility[1] (OECD 1999, p. 183).

2.1 Humanistic-developmental tradition

On of the most influential models of 'Human Resource Management' which has had a major impact on the European and the wider international business and research (Hollinstead 1995) is the 'humanistic-developmental' model devised by Beer et al (1984, 1985) at the Harvard Business School. The strength of this model is that it attempts to align the goals of a company's effectiveness with those of individual well being and positive benefits for society.



It is in the interconnected triangular dimension of the Harvard model that the notion of stakeholder interests is introduced. All of those with a stake in the company have a role in influencing company policy. This includes employees, trade unions, the community, government, as well as the traditional company controlling groups of shareholders and management.

From an employee work relations perspective the model represents a radical departure from the 'tayloristic' scientific management (instrumental) view based on tight *control* of employees in an atmosphere of mistrust, towards one based on winning their *commitment* in a context of mutuality of purpose. It also lays great emphasis on intensive HRD in generating high levels of employee competence. The other expected outcomes of this HRM philosophy which are seen as justifying the risk in moving from a 'control' to a 'commitment' based approach are:

- greater loyalty to one's organisation and on the part of individuals a greater sense of self-worth and a sense of belonging;
- cost effectiveness in relation to turnover of staff, low rates of absenteeism as well as societal and individual costs;
- greater congruence between management and employees, between different groups of employees, and between employees and their families and society as a whole (Beer et al. 1984).

2.2 From a 'personnel management' to a 'human resource management' perspective

One of the main implications of adopting this 'Human Resource Management' model is that

[1] The extent to which, what are termed, flexible work organisation practices have been introduced in firms is discussed in an OECD report (1999). According to that report the position is far from clear as it is difficult to separate empirical changes from 'management fads'. According to Ellström's review of international research in this area, including OECD studies, about 25 to 50 per cent of companies have adopted 'transformed work systems' to some extent (Ellström 1999). However, a complication in estimating the degree of implementation of these practices is the lack of a clear definition of what is meant by flexible work organisation approaches. Authors often fail to differentiate between external flexibility such as outsourcing and internal flexibility based on devolved management and autonomous work groups. One of the hypotheses postulated in the OECD report (1999) is that these changes represent a pendulum swing from management philosophies based on 'tight management control' to ones based on 'employee commitment'. This paper argues that these represent two competing HRM philosophies, the one being instrumental and utilitarian and the other humanistic and developmental. Further material on this issue is to be found in the section of this paper entitled 'level of implementation' and in the papers of J. Dejonckheere and G. v. Hootegem in this report.

human resource policies are integrated with all activities of the company. This is illustrated by the fact that the implementation of 'people related' policies is devolved to front line supervisory management levels. Because this entails a shift from a compartmentalised view of the management of 'people related issues', under the responsibility of a specialised 'personnel department', to an integrated notion, the overall change has been described in terms of a movement from a 'personnel management' to a HRM perspective. The demise of the 'personnel management' approach was due to the fact that as a specialist function it failed to place human resource policies as a strategic issue in the company. In the era of HRM, a very senior management person who is normally a member of the board (a director of human resources) ensures that enlightened 'people policies' are embedded in a systemic manner throughout the organisation.

The overall effect of the adoption of this human resource strategy is that the 'human factor' is assigned *a key influencing role* with regard to the shape of the company's business, organisational and technological parameters. This entails involving all employees in company change and development actions. A prerequisite for this is the continuous building of broad competence levels through formal and non-formal learning initiatives.

This HRM model, therefore, has given a great impetus to HRD activities as one of the key objectives to be addressed in an integrated HRM policy closely linked to the issues of recruitment; career management; organisational development; work design; pay and benefits and employee relations[2] (Sparrow and Hiltrop 1994; McLagan 1999). Regarding the boundaries between HRM and HRD in reality, some authors such as McLagan argue for more integration seeing the distinction between them as too fine (McLagan, ibid.).

[2] In a HRM context the term 'employee relations' is preferred to ' industrial relations'.

3. HRD and competence development

In line with the theory presented above, 'Human Resource Development' objectives are focused on developing the 'competence' of employees. The notion of 'competence development', within a HRD framework, lays the emphasis on a comprehensive programme for all employees including intermediate and frontline workers as well as management. This is in contrast to a development approach that is biased towards enhancing management's skills.

The term 'competence' refers to a person's ability to carry out a series of actions (or a whole complex action) in an autonomous or independent manner. Competence gives one the ability to be able to perform in a highly proficient manner in a variety of social contexts, generalising know how and transferring it from one context or situation to another, be it related to work or personal life. According to Docherty and Marking (1997; see also Docherty and Dilschmann 1992) 'competence' relates to an individual's ability to execute tasks to meet external demands and is based on the understanding of the individual as an interpreting, acting and problem solving human being. This notion of competence is closely related to the concept of 'core competences' which entail generalist knowledge allied to a capacity for deliberation, judgement and action (Nyhan 1993). Competence gives one the ability to make connections between theoretical knowledge, practical knowledge gained from experience, constantly building up one's 'practical knowledge' to use in the different situations of one's life.

3.1 Learning organisation

This contextual/situated and 'high transfer value' notion of 'competence' has generated theories and promoted 'social innovations' related to the integration of learning and working and individual with organisational learning agendas. Senge (1990, 1997) who is one of the foremost exponents of the concept of a learning organisation as offering possibilities for professional as well as personal growth, asks why is it not possible for people to at-

674

tain company goals 'in a work environment that is close to the things that workers really value in life' (Senge 1997, p. 144).

For Senge all significant learning for action is social and collective by nature.[3] A prerequisite for learning is the development of 'a sense of connectedness, a sense of working together in a system and an understanding of how each part of the system is affected or being affected by other parts and where the whole is greater than the sum of the parts' (p. 129). Learning is about sharing knowledge and this occurs when people are genuinely interested in helping one another develop new capacities for action.

A learning organisation can be described as 'an institution which involves all its members in increasing organisational and individual competence, through continuously reflecting on how strategic and everyday tasks are handled' (Nyhan 1999). These two dimensions, organisational effectiveness and individual competence are seen as interdependent factors. Organisational effectiveness provides an impetus for individual learning, while the latter in turn contributes to an increase in organisational effectiveness. If this model is implemented in an idealised situation, line workers are learning as a result of being assigned challenging tasks and through being assisted to continuously reflect on those tasks, so as to learn from them. The work content therefore becomes the learning content, as work and learning become part of a constant improvement spiral having an impact on the competence level of individual workers, the collective learning of work groups and the total organisation (Nyhan 1999; Stahl et al. 1993).

3.2 Level of implementation

As regards the degree to which these 'Human Resource Development' or competence development measures are being implemented, even though sufficient research has not been carried out, and as already stated in footnote 1, according to Ellström's review of the recent findings, somewhere between 25 to 50 percent of companies have adopted them, at least to some degree (Ellström 1999). In the study of Cressey and Kelleher (1999), undertaken in the auspices of the European Commission's Leonardo da Vinci programme, it was found that there was a great degree of consensus among employer and employee representatives (the 'social partners') in large companies in the car manufacturing, telecommunications and banking sectors in the UK, Germany and Sweden about the need to adopt these new HRD models. A different rather sceptical view about the impact of this new models, however, is that the interest by the management and academic community in these concepts is perhaps more due to their attractive presentation by management gurus rather than solid research evidence (OECD 1999). Méhaut and Delcourt (1997, p. 30) argue that neither on the European nor global stage do we see convergence towards a uniform model of new forms of work and learning organisations away from the 'old' 'tayloristic' control model. According to Poell (1998, p. 6) instead of understanding the changes in work organisation in terms of the replacement of one dominant 'tayloristic' model by a new dominant one we should pay attention to the diverse ways in which work and learning is organised.

In any assessment of the implementation of these strategies, it must be acknowledged that the adoption of radical transformative learning approaches is a complex process. There is often a big difference between what people say they are doing (or perhaps what they would like to do) and what they are actually doing. First impressions can be deceptive. One has to deeply analyse companies to see the extent of the changes achieved. In one intensive study of a eleven European companies, that claimed to have introduced radical learning organisation principles (and at first sight seemed to have done so) it was found that many of the changes had an impact only of introducing new learning methodologies at the frontline (shop floor) level

[3] Prahalad (1993) uses the term 'core competence' in a similar way to Senge although in a different sense to the way it was used earlier, to mean the 'collective competence' or 'collective learning' of an organisation, in particular referring to the ability to co-ordinate and integrate different skills and technologies.

675

or at a level of management structure without any transformation in a company's values/vision/culture (Docherty and Nyhan 1997; Nyhan 1999; Nyhan forthcoming). A genuine transformative level of change, internally driven and built on radical new insights about the contribution which employees can make to the company, was achieved by only five of the eleven companies examined. This entailed radical change at all levels of the organisation in relation to values, structures and work processes. This required the following elements – visionary leadership from the chief executive, the development of a 'shared vision' generated by everyone in the company, risk taking by management and employees, the development of a long term strategic programme and a commitment to follow it through in all its time consuming practical steps. What is more, the study also showed how fragile human resource innovation can be. Opportunities to change can so easily be let pass by, and major gains made, often after the expenditure of enormous effort in terms of time and finances, can be lost overnight (Nyhan 1999, p. 20).

4. HRD in Europe

4.1 European industrial/working life cultural traditions

Historically, within Europe, more particularly northern continental and Nordic Europe, one finds many different versions of what can loosely be called a European industrial development/working life model based on common threads running through national and sectoral traditions and common problems encountered in the different historical paths and choices taken on the road towards industrialisation. European industrial/working life cultural traditions differ from those in the US in that they place much greater emphasis on the role of skilled workers rather than managers (in particular in small and medium sized companies), on the role of social partners in the employment relationship and envisage an intervening role by Government (see Brewster et al. 1993; Guest 1990; Pieper 1990).

Albert in his book 'Capitalism Against Capitalism' (1993) contrasts the European continental economic and industrial model, what he terms the 'Rhine Model' with that of the 'Anglo-American' one. According to the 'Rhine Model', management and trade unions loosely 'share' power (in Germany 'co-determine' policies) with the state playing a major role in areas like initial vocational education and training and providing a safety net for those who lose their jobs. This model has existed for nearly a century in Germany, the Netherlands and France and in many respects, although taking a different form, in the Nordic countries. The 'Anglo-American' model, which mainly applies to the US (but also to the UK in many respects) gives a greater reign to market capitalism, stressing the state's subordination to the economy and business activities, with a consequent lesser focus on government intervention. Some of the European traditions outlined above have been enshrined in European Union legislation or agreements such as the Social Charter (in 1989) the European Works Council Directive (in 1994) and the European Confidence Pact for Employment (in 1996). Of course this is not to deny the fact that the manner in which these agreements are applied differs in line with national Member State traditions and legislative frameworks. Thus the 'principle of subsidiarity' which was enshrined in the European Union Maastricht Treaty strikes a balance between the 'unifying' policy making role of the EU and the diverse autonomous positions of the Member States.[4]

Within a common European heritage, of course, significant cultural differences exist between the different countries which affect how issues surrounding work and learning are understood and related policies and strategies implemented.

Trompenaar (1993) carried out an extensive worldwide survey of people in the business world to find out the corporate cultural fac-

[4] Art. 127 of the EU Treaty is a good example of how this works out in practice regarding the implementation of vocational education and training policies.

Box 2: Different 'national corporate cultures'

'Power oriented' corporate culture'
A leader in this hierarchical but person oriented culture can be seen as a caring 'patron', who knows better than his subordinates what is good for them and in appealing to their deepest feelings, directs them on how things should be done. This form of leadership can be referred to as 'management by subjectives'. The ways of thinking and learning in such cultures tend to be intuitive, holistic, lateral and error correcting, and according to Trompenaar are typical of Spain and to a lesser degree France and Belgium.

'Role oriented' corporate culture'
This is based on a bureaucratic division of labour with the various rules and functions prescribed in advance. When each role is performed in accordance with the overall system then tasks are effectively completed. The approach to thinking and learning in this culture, which according to Trompenaar is typical of Germany and to a lesser extent Denmark and Netherlands is logical, analytical, vertical and rational.

'Project oriented' corporate culture'
This third category differs from the power and role oriented cultures in being egalitarian. Even though it resembles the role-oriented model in being impersonal and task oriented, it differs from it in that the jobs people do are not fixed in advance. The UK (and the US) are seen as having many examples of these kinds of companies where thinking and learning patterns are problem centred, practical and cross-disciplinary.

'Fulfilment oriented' corporate culture'
This is based on the notion that organisations are secondary to the fulfilment of individuals. These kinds of organisations which operate in an environment of intense emotional commitment are, according to Trompenaar, typical of Sweden. The approaches to thinking and learning in these organisations are creative, ad hoc and inspirational (one has to question the rhetoric as opposed to the reality!).

Source: Trompenaar (1993).

tors influencing how they perceive and design work organisation. He developed a fourfold typology – 'power oriented', 'role oriented', 'project oriented' and 'fulfilment oriented' corporate culture. A resume of how these four types apply in a European context is provided in Box 2.

4.2 Europe and humanistic-developmental HRD

Despite the American origin of the Harvard human resources model described earlier, it can be argued that its 'humanistic-developmental' perspective and in particular its effort to align company objectives with those of the needs of the individual and society as a whole, complement mainstream European industrial and working life traditions. The adoption, or at least the application of its underlying principle of embedding 'open' and developmental 'people management' and learning activities in all aspects of a company's activities, by many large European countries in the late 1980s and 1990s had a positive impact in revitalising practices that were often being implemented in a rather regimental (and Tayloristic) fashion. The dynamic and integrated organisational perspective also challenged the rather compartmentalised and rigid thinking of those in charge of vocational education and training institutes. It certainly improved the status of 'personnel' and 'training and development' functions within enterprises and gave rise to new University and Business School courses in this area.

Perhaps one of the most noteworthy effects of the HRM movement was the modernisation of peripheral countries and regions in Europe which did not have a well developed industrial development tradition. So, for example, for a country like Ireland coming late to industrialisation and cut off from progressive continental European industrial/working life traditions, the investment by American and European multinational companies with sophisticated and enlightened modern management systems, many of them with humanistic-development approaches, had an impact not only on the economic development of the country, but also offered illustrated lessons on how to design organisations that promote human systems for development and learning.

The humanistic-developmental HRM model also can be seen to share some common underlying principles with European originated innovation movements. The 'sociotechnical' systems thinking tradition is one of them. The original work in this area was undertaken by the Tavistock Institute in the UK in the 1950s and implemented in particular in the Nordic countries (e.g. the Norwegian 'Work Democracy Programme' in the 1960s) and also in the Netherlands. The work organisation design, put forward by the 'sociotechnical' school, centring on the notion of 'semi-autonomous groups', stressed the benefits to be derived (in relation to efficiency and worker satisfaction perspectives) from workers having control over and shaping their work and technological environment. There is emphasis on introducing the latest technology but designed in a way to fully harness workers' skills and motivation. The benefits to be derived from such a 'sociotechnical' tradition are seen to be superior productivity and work performance as well as a more fulfilling work environment in the form of challenging work that also offers opportunities for learning and development.

The relationship between the 'humanistic' human resource management tradition and the concept of 'social shaping of technology and work', which came from the German tradition is also worth commenting on (see Rauner 1988; Heidegger 1997). According to this concept a high degree of control ('influence' or 'shaping' – in German *'Gestaltung'*) by the workforce of the work environment is essential to ensure productivity and create an environment in which people learn continuously. This concept has similarities with 'sociotechnical' thinking but differs from it in that it is derived from the discipline of vocational education and training rather than a top down 'systems design' approach. It also gives an active role to workers in continuously modifying and developing new work processes. Through this, they are also developing 'practical expert knowledge', called 'work process knowledge' which can only be learned in an experiential (bottom up) fashion. In relation to technology, this means that the know-how and the competence in the workers' heads must be superior to the 'software know how' embedded in the technology. This concept is based on the notion that the cornerstone of effective production systems is the expertise or 'work process knowledge' of the human being and not the technology. According to a related concept of 'anthropocentric technology' (or 'human centred technology') – 'it is only when the technologies allow the development of human capabilities and skills that they become optimally productive' (Wobbe 1990, p. 11).

This emphasis on the centrality of the skilled worker (intermediate level profession or craft/trade level) who has a high degree of discretion, authority and responsibility can be seen as one of the hallmarks of the more highly developed indigenous human resource policies in Europe. This gives them a clear stakeholder role within the company – reflected in the wages offered. This role is strengthened by an occupational identity through membership of a professional group and in the extended society by what has been termed an 'industrial citizenship'. Referring back to the German context, Hendry (1991) states that it is not a platitude to say that Germany's greatest asset is her people. While the German concept of HRM differs from the US originated humanistic model, both of them concur in recognising the need for a highly motivated, flexible and trained workforce. HRM, therefore, should not be considered a new or alien concept for German organisations.

5. A competing human resource strategy

A recent study of HRD trends within seven European countries (Ter Horst et al. 1999) concluded that in the face of globalisation, there appears to be a tendency towards convergence in the human resource policies of Europe, the United States and Japan. According to the study, the common aspects of human resource policies between large companies in the three most powerful global trading blocks are seen to be more significant than the differences. This conclusion is drawn on the basis that the globalisation of business is forcing all companies, who wish to compete in world markets, to adopt human resource policies focused on meeting companies' immediate business performance objectives. This emphasis on more or less short term performance objectives gives rise to a contingent and situational view of human resources along the lines of Trompenaar's 'project based' corporate business culture outlined above.

In line with this, many companies today see themselves more like loose 'market led networks' rather than organisations. These networks are constantly redefining their structures offering project based work opportunities for people in a dynamic market environment. We live in the age of the contingent worker in which jobs are being replaced by 'projects'. In the United Kingdom, Brown and Keep (1999) make the point that 'taylorism' and 'neo-taylorism' still offer a powerful model of competitive advantage, in particular within the service sector. In a large study of British manufacturing companies, Acroyd and Proctor (1998, p. 171, cit. in Brown and Keep 1999) conclude that profitability is not secured through 'the acquisition of a highly trained 'core' labour force but by a combination of relatively unskilled labour and a willingness to utilise external sources of production'.

In France, on the same day that the Michelin tyre manufacturing company announced a net profit of EUR 292 million for the first half of 1999, up 17 percent from a year ago, the company also announced that it would cut its workforce in Europe by 7,500 over the next three years. This news received a euphoric reception in the Paris Bourse. The new finance director justified the cost cutting exercise by stating that: 'Our principal rivals have clearly announced firm intentions to target Europe. We want to react before anything happens' (International Herald Tribune, September 11-12, 1999, p. 11). This newspaper report went on to note that while 'the family controlled company has traditionally been considered as paternalistic towards employees and unresponsive to shareholders, three months after taking over as president, however, Eduouard Michelin, 36, appears eager to break away from the old school management style of his father, François, and introduce business practices he learned in the United States.'

This is an example of growth in 'shareholder power' in European companies which according to an article in The Economist (2000) promises to remake European capitalism. German critics of the Mannesmann hostile take over of Vodafone in early 2000 see this as the first severe blow to the country's well found Rhineland capitalism model built on consensus and close ties between bankers, business, employers, trade unions and the government. This article goes on to state that behind this trend towards shareholder power is a new generation of managers who believe that 'firms belong to shareholders, not bosses or 'society'. Germany is singled out here because it is a stronghold of the classical European social market economy, but taking Europe as a whole there has been a merger boom in response to shareholder pressures in recent years. The values of mergers and acquisitions in Europe for 1999 was 1,200 billion dollars, an increase of 50 percent over 1998 and 700 per cent over 1994 (source cited in The Economist, 2000 – Thompson, Financial Securities Data).

In line with the above trend, HRM policies are driven principally by the situational context in the external market environment. This entails *adapting* human resource policies to fit in with the corporate business strategy. Companies 'upskill' or 'downskill' as the market demands. Brought to its logical conclusion, human resources are a contingent, instrumental factor with no inherent value in

their own right.[5] Accordingly, HRD as a distinct activity may or may not be a part of the HRM policy, but based on the principle of 'external flexibility', human resource stocks can be renewed more effectively through a process of short term 'project based' recruitment, outsourcing products and services, downsizing staff etc. The concept of 'business process engineering' (see Hammer and Champy 1993) entailing an overnight reshaping of one's organisation, and indeed the whole supply and sales chains with an emphasis on cost cutting and downsizing the number of employees, offers a way of implementing this form of 'Human Resource Management'.

This is referred to as the 'hard' model of human resources derived from tayloristic and neo-tayloristic/neoliberal thinking. It is contrasted with the 'soft' 'humanistic' model which attempts to match company needs with individual career development and wider societal effects. The 'hard model' is based on the 'external flexibility' (or 'numerical flexibility') of the outside labour market (the classical free market 'hire and fire' approach) as distinct from the 'internal flexibility' (or 'functional flexibility') of the workforce within the company, which is cultivated through continuously developing people's competence and capacity for change. The difference between these two strategies is that one entails a 'redundancy of parts (people)' approach in which people are constantly replaced in accordance with the tasks that need to be undertaken, while the other implies a 'redundancy of function' approach (Morgan 1986, pp. 98-100) according to which, even though jobs may change, the company sees it to be in its long term interests to retain people, within the firm, sufficiently well skilled (or being retrained) to take over new tasks. The dominance of neoliberal policies across the world is strengthening the position of those putting forward this 'redundancy of parts' view and is strongly challenging the 'humanistic-developmental' model of human resources.

While in an earlier book Handy (1989) portrayed the arrival of a flexible labour market with its flexible companies (or as he also called them 'shamrock companies') as offering people (with their portfolio of skills) liberation from rigid employment patterns and providing them with opportunities for choice and personal fulfilment, he changed his mind later on, saying that although this situation may be in the interests of the elite highly skilled professionals – the 'symbolic analysts' who comprise a small percentage of the workforce – it was not really enhancing the quality of working life for the average person (Handy 1994).

According to Sennett: 'in attacking rigid bureaucracy and emphasising risk, it is claimed, flexibility gives people more freedom to shape their lives. In fact the new order substitutes new controls rather than simply abolishing the rules of the past – but these new controls are also hard to understand' and represent 'an illegible regime of power' (Sennett 1998, p. 10). In addressing the question 'The HRM organisation – rhetoric or reality?' Sisson (1994, p. 15) contrasts the 'rhetoric' of certain HRM slogans with their 'reality' counterpoints – *'flexibility'* often means that *'management can do what it wants'*; *'lean production'* can in fact be *'mean production'* and *'team working'* can mean 'reducing the individual's discretion'.

Adler and Cole (1993) attempt to resolve the polarisation of the 'instrumental' with the 'humanistic' type of work organisation[6]. The result is the concept of 'democratic taylorism' which seeks to integrate the characteristics of efficient bureaucracy along neo-tayloristic lines with a genuine humanising environment (characterised by good working conditions and training opportunities). They see this as an 'enabling' formal system rather

[5] A human resource director of a major international firm, shedding much of its workforce in a restructuring exercise, facetiously referred to his job title as 'human remains' director.

[6] This a kind of 'third way' work organisation version of Giddens' political and societal 'third way' concept that attempts to go beyond the two dominant political philosophies – social democracy (which is rooted in Keynesian demand-management, interventionist government, the welfare state and egalitarianism) and neo-liberalism/ market fundamentalism (Giddens 1998).

than a 'coercive' one. They argue that it is romantic nonsense to talk about the notion of a workplace characterised by autonomous workgroups and see the 'humanised lean production' plant of NUMMI – a joint venture between Toyota and General motors in the US – as offering a model that can be implemented in practice. The NUMMI plant, according to Adler and Cole, represents a good balance between the exigencies of efficiency and satisfying work, making what they term a 'humanised' work environment. This environment has a good layout, is ergonomically well designed and has good worker support facilities. It combines features of 'lean production' systems with classical Fordist ones, with workers having responsibility for quality assurance and routine maintenance (see Cressey and Kelleher 1999; Ellström 1999).

6. Future direction for HRD in Europe

This raises the question about the future role of the 'Human Resource Development' policies in a European context.

In discussing the challenge of globalisation from a European point of view, Lundvall and Borrás (1997) in their report 'The Globalising Learning Economy: Implications for Innovation Policy'[7] argue for wide transformative social innovations, laying an emphasis on building societal frameworks focusing on new forms of interorganisational cooperation and alliances between enterprises and knowledge producers. They talk of the need to build 'learning economies' which enhance the learning capability of individuals, firms regions and countries. What is more, Lundvall developed this notion further at the European Socio-Economic Research Conference, in 1999[8], when he spoke about creating a 'socially sustainable learning economy'. This approach appears to be in continuity with the wider implications of 'sociotechnical systems theory', which addressed the issue of building strong institutions in turbulent social environments. This means according to Emery and Trist (1965) that interconnected organisations must contribute to the creation of shared value systems that have meaning for all of them and so guide their actions.

For Lundvall and Borrás the neoliberal solution and the neo-protectionist solution must give way to the 'new new deal' which focuses in particular on the learning capability of the weak learners, people and regions (Lundvall and Borrás 1997, p. 38). In this regard the regional territorial dimension become important because 'territory and proximity play a central role in the genesis of tacit knowledge and the capacity to exploit it. The region is increasingly the level at which innovation is produced through regional networks of innovators, local clusters and the cross-fertilising effects of research institutes.' (ibid. p.39) The concept of the 'learning region' is put forward as a model for mobilising all of the actors in a region to build inclusive innovation policies addressing integrated economic and social development goals (see Nyhan et al. 2000).

The central message of Lundvall and Borras is very relevant to the debate about the future direction of HRD policies within industries for the reason that companies cannot survive without learning from and contributing to their environment. However, to do so, innovation at the level of the company is called for. Coriat (1995) refers to organisational innovation as being the missing link in European competitiveness. He calls for new organisational models to be developed in a research process which is concurrent with experimentation by enterprises. This means research imbedded in practice that will provide practical knowledge for a new genera-

[7] In this publication, which is an analysis and synthesis of the findings of seven major European socio-economic research projects, covering many disciplines, supported by the European Commission's Fourth Framework Targeted Socio-Economic Programme, Lundvall and Borrás have attempted to provide policy makers with an overview of the implications of these studies for innovation policies and identify the direction of further research.

[8] This conference, organised by the European Commission, took place in Brussels on April 28-30, 1999.

tion of managers and professionals within firms.

Returning to the question of 'humanistic' versus 'instrumental' models, the need to have a more business-led focus of HRD was put forward by Harrison (1999), a European keynote speaker at the Academy of Human Resources Development Conference at Washington in 1999. To the contrary, McLagan (1999), a leading American keynote speaker at the same event, criticised the 'mechanistic, more authoritarian worldview' in which people are seen as 'resources in the sense of being optimised and even exploited'. She pointed out the 'dichotomy between this utilitarian view which is based on behaviourism with the generative view which is based on humanistic philosophy'. She went on to ask the question: should the HRD specialist become a performance engineer and systems consultant or focus on unleashing the capacity of people so that they can work for themselves? (p. 17)

In responding to the above question, it would appear to be an abdication of the role of the HRD professionals were they to adjust themselves or merely submit to the dictates of those espousing the utilitarian view of human resources, which is derived from perspectives and values outside of the 'human resource development' one. Having overcome most of the inefficiencies and lack of competitiveness which became apparent in European companies in the 1997s and 1980s, particularly in the face of superior Japanese innovativeness and productivity, surely the challenge now is to devise innovative solutions which look beyond the present situation and can contribute to building a 'socially sustainable learning economy'.

Perhaps the reflection of the 'business guru' Handy (1994, p. 1) should be kept in mind by the HRD research and practitioner community in building a future model: 'In the pursuit of these goals (*economic growth and efficiency*) we can be tempted to forget that is we, we individual men and women, who should be the measure of all things, not made to measure for something else. It is easy to lose oneself in efficiency, to treat that efficiency as an end in itself and not as a means to other ends'.

692

Bibliography

Ackroyd S., Procter S., 1998. British manufacturing organisation and workplace industrial relations: some attributes of the new flexible firm. *British Journal of Industrial Relations*, **36** (2), pp. 163-183

Adler P.S., Cole R.E., 1993. Designed for learning: a tale of two auto plants. *Sloan Management Review*, **33** (3), pp. 85-94

Albert M., 1993. *Capitalism against capitalism*. London: Whurr

Ant M. et al., eds., 1996. *Access, quality and volume of continuing vocational training in Europe*. Berlin: Luchterhand

Beer M. et al., 1984. *Managing human assets*, New York: Free Press

Beer M. et al., 1985. *Human resource management*, New York: Free Press

Brewster C. et al., 1993. Trends in European HRM: signs of convergence? *In*: Kilbride P., ed. *Human resource management in the new Europe of the 1990s*. London: Routledge

Brown A., Keep E., 1999. Competing perspectives on workplace learning and the learning organisation. Paper presented at the TSER forum network (for European research in vocational education and training) workshop: *Learning in learning organizations*, University of Evora, Portugal, November 1999

Coriat B., 1995. Organisational innovations: the missing link in European competitiveness. *In*: Andreasen L.-E. et al., eds. *Europe's next step – organisational innovation, competition and employment*. Ilford, Essex: Frank Cass and Company

Cressey P., Kelleher M., 1999. Advances and paradoxes of corporate learning practices. Paper presented at the TSER forum network (for European research in vocational education and training) workshop: *Learning in learning organizations*, University of Evora, Portugal, November 1999

Cressey P., Kelleher M., 1999. *Social partnership and human resource development*. Unpublished, European Consortium for the Learning Organisation, Brussels

Docherty P., Dilschmann A., 1992. *Lärande med förhinder: närteknik stöd blir teknikstyrning*. Stockholm: Arbetsmiljöfonden MDArapport

Docherty P., Nyhan B. eds., 1997. *Human competence and business development – emerging patterns in European companies*. London: Springer Verlag

Docherty P., Marking C., 1997. Understanding changing competence demands. *In*: Docherty P., Nyhan B., eds.

Ellström P.-E., 1999. Integrating learning and work: problems and prospects. Paper presented at the TSER forum network (for European research in vocational education and training) workshop: *Learning in learning organizations*, University of Evora, Portugal, November 1999

Emery F.E. and Trist E.L., 1965. The casual texture of organisational environments. *Human Relations*, 18 (1), pp.21-32

Frombrun C.J., 1984. The external context of human resource management. *In*: Frombrun C. et al., eds. *Strategic human resource management*. New York: John Wiley

Giddens A., 1998. *The third way – the renewal of social democracy*. Oxford: Polity press

Guest D., 1990. Human resource management and the American dream. *Journal of Management Studies*, **27** (4), pp. 377-397

Hammer M., Champy J., 1993. *Re-engineering the corporation*. New York: Harper Collins

Handy C., 1989. *The age of unreason*. Boston: Harvard Business School Press

Handy C., 1994. *The empty raincoat – making sense of the future*. London: Hutchinson

Harrison R., 1999. HRD and the business: turbulence, turmoil and strategic direction. Paper presented at the 1999 *Academy of human resources conference*, Washington D.C. (March 1999)

Heidegger G., 1997. The social shaping of work and technology as a guideline for vocational education and training. *The Journal of European Industrial Training*, **21** (6/7), pp. 238-246

Hendry C., 1991. International comparisons of human resource management: putting the firm in the frame. *International Journal of Human Resource Management*, **2** (3), pp. 415-440

Hollinshead G., Leat M., 1995. *Human resource management – an international and comparative perspective*. London: Pitman

Ter Horst H. et al., 1999. HRD models and variations in learning organisations in the US, Japan and Europe. *In:* Lasonen J. et al., eds. *Conference proceedings: network on vocational education and training research (VETNET)* – European conference on educational research '99, Institute for educational research, Jyväskylä, University of Jyväskylä

International Herald Tribune, September 11-12, 1999

Lundvall B.-Ä., Borrás S., 1997. *The globalising learning economy: implications for innovation policy*. Luxembourg: EUR-OP

McLagan P.A., 1999. Jumping up and down on a fault line – the role of HRD as we enter a new millenium. *Paper presented at the Academy of human resources conference*, Washington DC (March 1999)

Méhaut P., Delcourt J., 1997. *The role of the company in generating skills: the learning effects of work organisation – synthesis report*. Cedefop, Luxembourg: EUR-OP

Miles R., Snow C., 1984. Designing strategic human resource systems. *Organizational Dynamics*. Summer, pp. 36-52

Morgan G., 1986. *Images of organisation*. Beverly Hills, California: Sage publications

Nyhan B., 1993. Emerging patterns of qualification and learning. *Presentation at the European centre for work and society EPOQUAL conference*, Dublin, Trinity College Dublin (December 1993)

Nyhan B., 1999. Building learning organisations: putting theory to the test – lessons from European companies. *The European Vocational Training Journal*, No 16, January-April 1999/1

Nyhan B., Attwell G. and Deitmer L., eds., 2000. *Towards the learning region – education and regional innovation in the European Union and the United States*. Cedefop, Luxembourg: EUR-OP

Nyhan B., forthcoming. Trends in competence development in European companies. *In*: Sellin B., ed. *European trends in occupations and qualification – findings of research, studies and analyses for policy and practice*. Cedefop, Luxembourg: EUR-OP

OECD, 1999. *OECD Employment outlook*. Paris: OECD publications

Pieper R., ed., 1990. *Human resource management: an international comparison*. Berlin: De Gruyter

Poell R., 1998. *Organising work-related learning projects – a network approach*. Catholic university of Nijmegen: Nijmegen

Rauner F. et al., 1988. The social shaping of technology and work: human centred CIM systems. *Artificial Intelligence and Society*, **2** (1), pp. 47-61

Senge P. M., 1990. *The fifth discipline: the art and practice of the learning organisation*. New York: Doubleday

Senge P. M., 1997. Through the eye of the needle. *In*: Gibson R., ed. *Rethinking the future*. London: Nicolas Brealey Publishing

Sennett R., 1998. *The corrosion of character – the personal consequences of working the new capitalism*. New York: W.W. Norton and Company

Sisson K., 1994. *Personnel management – a comprehensive guide to theory and practice*. Oxford: Blackwell

Sparrow P., Hiltrop J.M., 1994. European human resource management in transition. Hertfordshire: Prentice Hall

Stahl T., Nyhan B. and D'Aloja P., 1993. *The learning organisation – a vision for human resource development*. EUROTECNET. Brussels: Commission of the European Communities

The Economist, Vol. 354, No 8157, February 12th-18th, 2000

Trompenaar F., 1993. *Riding the waves of culture – understanding cultural diversity in business*. London: Economist books

Wobbe W., 1990. Overview and predicted trends towards the flexible factory. *In*: Wobbe W., Brödner P., eds. *New technology and manufacturing management – strategic choices for flexible production systems*. Chichester, West Sussex: John Wiley

Reporting on human capital; objectives and trends

Sven-Åge Westphalen

Abstract

Human capital encapsulates individuals' attributes of use in the labour market, while reporting on human capital, on the other hand, is primarily associated with the enterprise level. This apparent paradox is partly due to the fact that the identification of an individual's knowledge, competences and skills as well as their acquisition, maintenance and upgrading, i.e. the input side to human capital, is only rarely related to the output, i.e. human capital, irrespective of the former being the very substance in the latter. This lack of interconnection is primarily due to different traditions where human capital is considered in purely economic terms whereas the individual's acquisition of knowledge is primarily related to the pedagogical, sociological and psychological fields. One reason for this being, of course, that the notion of human capital does originate from within economy and, further, that economists still relate human capital primarily to the enterprise level and / or at macro-economic level while generally neglecting the individual's level.

In this paper human capital is defined as 'the knowledge, skills, competences and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods, services or ideas in market circumstances'.[1]

The paper will focus on the enterprise level and primarily with an economic perspective, but, as indicated above, other levels and dimensions will play a significant role throughout the paper. This is particularly the case when it comes to reporting on human capital, and when it comes to an analysis of the interests of the main stakeholders.

[1] For discussion of the definition, please refer to the chapter on theoretical and methodological considerations.

685

Table of contents

1. The socio-economic context 251
1.1 Macro-economy and human capital: the endogenous growth theory 251
1.2 Micro-economy and human capital: the returns to human capital 253
1.3 The abstraction of human capital within economic theory 254

2. The theoretical and methodological context 255
2.1 Defining human capital 255
2.2 A theoretical framework for reporting on human capital at enterprise level 255
2.2.1 The shareholder approach 255
2.2.2 The enlightened shareholder approach 256
2.2.3 The stakeholder approach 256
2.3 Reporting on human capital 256
2.2.1 Reporting at individual level 257
2.2.2 Reporting at enterprise level 258
2.2.3 Reporting at society level 259
2.3 Methodological considerations 260
2.3.1 Identification of human capital 260
2.3.2 Measuring human capital 260

3. Political considerations and the stakeholders 261
3.1 The stakeholders 261
3.1.1 International State organisations 262
3.1.2 Governments 262
3.1.3 Trade unions 262
3.1.4 Investors 263
3.1.5 Enterprises 263
3.1.6 Employees 264
3.2 Market forces or public regulation 264

4. Current reporting frameworks 266
4.1 Intellectual capital accounts, Denmark 266
4.2 The Finnish model 268
4.3 Social accounts in France 269
4.4 Investors in People, the United Kingdom 269
4.5 ISO quality management – guidelines for training; ISO/DIS 10015 270
4.6 The current standing on human capital reporting frameworks 271

5. Research findings: from theoretical intentions to applicable methods 272

6. Conclusion; recent trends and likely future of reporting on human capital 273
6.1 Society level 273
6.2 Enterprise level 274
6.3 The future of reporting on human capital; the quest for indicators 275

Bibliography 276

686

1. The socio-economic context

Technological, commercial and organisational developments have changed the labour market. Shorter life cycles of goods and services, increased and globalised competition, the growing importance of intangible assets at all stages in production cycles and new forms of work organisation have transformed both the workplace and the skills required to perform a given task. This requires new qualifications from employees and a new perception of the workforce and work organisation from employers in that 'traditional' instrumental skills are no longer viewed as sufficient to maintain competitiveness; flexibility, responsibility and involvement of the workforce must be added as well as new dimensions to the management and organisation of work.

The strict distinction between knowledge workers, skilled workers and unskilled workers is thus diminishing following the more horizontal organisation of work which leads to higher utilisation of knowledge found in all employees at all levels and not necessarily limited to the employees' core work. The enterprises' knowledge base is not only identified in special units such as the management group, the R&D department or the sales division, it is increasingly being diversified covering the entire workforce.

Achieving a competitive edge for individuals, enterprises and societies alike is increasingly becoming synonymous with the notion of human capital. This is partly justified by the growing importance of intangible assets in enterprises, of which human capital constitutes a major element and by the emphasis from both public and private bodies on human capital as a saviour of competitiveness, reduction of unemployment and expansion of economic wealth.

Human capital has therefore become the focal point for theoretical and methodological considerations, and analyses as well as for numerous pilot projects initiated by practitioners, researchers and policy-makers alike. Further, and irrespective of its economic origin at enterprise level, human capital is now subject to various levels and dimensions, as illustrated in Table 1.1[2].

Levels and especially dimensions are to a great extent interrelated with many overlaps. This must be kept in mind while working with human capital in general and reporting on it in particular. It is therefore critical to have a clear understanding of the various stakeholders' interests as well as the specific objectives for concrete methods when also keeping in mind related levels and dimensions while exploring possibilities and limitations on the notion of human capital and the reporting of it.

1.1 Macro-economy and human capital: the endogenous growth theory

Human capital is related to the economic interaction of the labour market and it is the human knowledge as a production factor, which is of interest as opposed to, for instance, social or cultural interactions[3]. It is thus the human capital's contribution to economic development which is looked into. As such, human capital is closely related to physical and financial capital though it must be treated differently, both theoretically and in practice due to its intangible nature.

Although being acknowledged theoretically, human capital has tended to be hidden under residual factors in economic growth theory[4], primarily due to the difficulties in the measurement of human capital and other intangible values. However, the exogenous fac-

[2] See for instance Coleman 1988, Fukuyama 1995 and Goleman 1996.

[3] The notion 'social capital' refers to the influence of the social setting for the development of human capital. As such, social capital can be seen as going beyond the scientifically established boundaries between the social and economic spheres of life. See Goleman 1996, Fukuyama 1995, Putnam 1995, World Bank 1999.

[4] A classic example is the Solow residual, i.e. the part of growth which is not explained within his growth model that is based on the growth of labour and capital.

Table 1.1: Levels and dimensions of human capital

Level / Dimension	Politics	Economy	Sociology	Psychology
Individual	Increase skills level	Increase earnings	Increase equality	Increase self-esteem
Enterprise	Comply with surrounding society	Increase competitiveness	Improve the enterprise image	Improve work environment
Government	Complement labour market and employment policies	Share the costs related to education and training	Implement the lifelong learning concept	The notion of a dynamic government/ society

NB: Different levels as well as different dimensions may have identical objectives. The examples given must, therefore, be treated as indicative rather than exhaustive.

tors, i.e. the growth of (homogeneous) labour, investment and general technical progress has become less and less sufficient to explain growth, development and productivity, both at micro and at macro levels. Mainly because intangible input into the economy has grown and may even have exceeded investments in physical capital[5].

Consequently, endogenous growth theory has gained momentum in recent years by opposing the classical notion of exogenous factors determining growth[6]. Instead, they include explicitly endogenous factors, foremost the accumulation of human capital to explain growth and growth differentials between States[7]. The production of human capital in terms of the allocation of resources to the formation of knowledge in the labour force is thus being internalised rather than just being a 'residual' factor.

While macro economic theory has begun to include human capital as a decisive, endogenous growth factor, actual knowledge is still sparse. The most widespread method used for examining the influence of human capital on economic growth, is investment in education relative to national wealth[8]. However, these are very crude measures and often only refer to school attainment and, thereby, neglect training outside the formal education system, for instance vocational training not leading to formal qualifications or informal training. Further, they do not include the quality of the output.

This perspective conflicts with the demand from governments for international comparisons of national educational achievements, which focus on the quality of the output. While this perspective focuses predominantly on the formal education system and primarily the general education segment, it is not directly related to economic growth. Benchmarking has taken place for a long time, for example through surveys by IEA[9].

As Steedman phrases it: 'growth economists are concerned principally with human capital as an *input*, that is, one among a number of independent variables influencing economic growth. Until now, they have had little interest in how (efficiently or inefficiently) those inputs have been produced. Governments and policy-makers view stocks of human capital as outputs of educational provision – that is, as a dependant variable – and their questions

[5] See for instance Ernst & Young and OECD (1997).

[6] For a discussion of neo-classical versus endogenous growth analysis, see McCallum 1996.

[7] For the economic models, see Lucas 1988, Rebelo 1991 and a review by McCallum 1996.

[8] See OECD's annual publications *Education at a glance*, Psacharopoulos and Ariagada 1986, Barro and Lee 1993, Psacharopoulos 1994 and 1995.

[9] The International Association for the Evaluation of Educational Achievement (IEA).

largely concern relative efficiency in the way resources devoted to education are used.'[10]

Bearing in mind the practical and methodological limitations to both approaches, it is still a long way to go before the creation of human capital outside the formal educational system will affect macro-economic thinking and be visible to wealth creation at macro level. This is to a certain degree paradoxical to the intense promotion of investments in human capital formation outside formal systems notably through the notion of lifelong learning, which has taken place since the mid-1990s.

1.2 Micro-economy and human capital: the returns to human capital

As opposed to the macro level, calculating costs and returns on human capital at micro economic level has a long history which dates back to at least the Roman times and includes calculations on slaves, soldiers and workers. However, it was in the 1960s that the human capital theory in its present meaning was introduced. The theory was originally based on the assumption that investments in human capital do pay off because the correlation between years of schooling or on-the-job training and income demonstrates that there is a positive rate of return[11]. This correlation was soon questioned both from a theoretical perspective as well as from empirical findings. Nevertheless, it is still the dominant method used to indicate returns on investments in human capital to individuals although supplemented by screening and signalling theories[12].

Still, returns to individuals are fairly easily captured through the correlation of education and life earnings at an aggregate level. There are serious limitations, though. Methods do not, generally, provide any indication of the returns on investments in education and training outside the formal education and training structures, such as continuing vocational training, training supplementing initial vocational training, etc. This is particularly important for decisions on further investments by individuals, since the return on such investments may be invisible or even non-existent, especially in money terms. Theoretically, a higher level of human capital embodied in individuals, i.e. the increased level of labour market relevant knowledge obtained through additional training, should be reflected in the income. However, just as an increase in income does not necessarily stem from increased productivity, increased knowledge does not necessarily result in higher income.

Above all, the human capital theory does not identify the stock of human capital but merely the correlation between input of education and the return. At enterprise level, this is inadequate since their primary objective is the operational utilisation of human capital; hence, generalisations and abstract correlation between measures are of relatively little use.

This leads to the most underdeveloped research area: the meso-economic or enterprise level, where the same uncertainty regarding returns on investments can be identified. While the input side or the investments in maintaining or upgrading the human capital in enterprises is fairly easy to identify through measuring the direct and indirect costs, little is known about the output side and especially the returns on such investments[13]. Even if this is not a new problem, no reliable evaluation method has so far been developed[14]. Human resource accounting which originated as a response to this 'black spot' has not yet provided an adequate response.

More limited approaches, such as utility analyses on the cost and benefits of employ-

[10] Steedman 1996.

[11] Refer to Blaug 1985, Flamholtz 1985 and Schultz 1961 for further details on the roots of the human capital theory.

[12] For screening and signalling theories, see Weiss 1995. One serious attempt to expand the human capital theory can be found in OECD 1996, p. 19-23.

[13] See Barrett, Hövels, den Boer and Kraayvanger 1998.

[14] See for instance, Kirkpatrick 1959, one of the founding fathers of modern evaluation methods.

ment strategies and of health and security policies, have, however, developed into standard practice in many enterprises[15]. Although these elements play important parts in current thinking on reporting on or accounting for human capital, they too do not measure the stock of human capital. However, they do provide an input-output relation in specific areas related to human capital; that is, the costs and benefit of maintaining a good safety and health environment and by outlining the costs and benefits of strategies where enterprises rely on a high staff turnover. This is information of direct relevance to enterprises and although human capital cannot be reduced to a technical issue about cost and benefit alone, it does provide an easily understood and relatively simple method of evaluation.

Nevertheless, utility analyses, despite their practicability, do little to capture the maintenance and upgrading or a specification of the enterprises' stock of human capital. In other words, equivalent methods for measuring the stock of human capital or returns on investments in training have not been developed.

The increasing use of benchmarking is therefore partly the cause for the lack of information on the return side, in that they primarily focus on investments/processes or the input side rather than the output side. Hence, benchmarking will only compare the enterprises' input to human capital formation and not how these investments are capitalised. However, benchmarking does provide the tool for providing information on the correlation between, say investments in training and net profits. Hence, some indirect measures on the returns of investments can be established through benchmarking.

Benchmarking does not, however, provide a method for measuring directly the returns to training investments in enterprises.

Proposing increased investments in continuous or lifelong learning by policy-makers, researchers and some practitioners is therefore based on a high level of uncertainty and lack of actual knowledge. This is even more the case when discussing the cost distribution between individuals, enterprises and the public sector and, further, how to find additional funding for the perceived need for an increase in the total level of investments in human capital.

Table 1.2: Correlation methods at different levels

Level	*Methods*
Society	Investment in education relative to national wealth
Enterprise	Investment in training relative to enterprise performance
Individual	Years of schooling relative to life income

Lack of reliable and precise information on the return side of investments in human capital formation is one of the basic reasons why indicators other than financial ones are being used to capture the positive returns. This is also the reason why, ultimately, non-financial reporting methods and benchmarking are being utilised as proxy measures.

1.3 The abstraction of human capital within economic theory

As mentioned in the introduction, human capital cannot be captured in economic terms alone. The fact that human capital, and especially its acquisition, maintenance and upgrading can only be measured indirectly is not satisfactory from economists' points of view. Especially, since the return on investments is only captured indirectly, as exemplified in Table 1.2 below.

The ongoing sophistication of methods does overcome some of the weaknesses in using proxy indicators. However, to capture fully the notion of human capital, a more stringent theoretical and methodological framework must be established and for the enterprise level in particular, standard methods for reporting on human capital must be developed both for the input and the output sides.

[15] For the latter, see the European Agency for Safety and Health at Work 1998.

2. The theoretical and methodological context

2.1 Defining human capital

Human capital can be defined strictly within an economic context, i.e. as a production factor, or it can have a more universal meaning. Treating human beings as economic entities in a purely market related context often causes some confusion and opposition since it is viewed as a simplification of human values. It is, however, necessary to differentiate between different sets of perspectives and objectives. This can be illustrated with the distinction between general and vocational education: general education provides the individual with knowledge in order to participate in society, i.e. the social, cultural, economic, etc. life spheres, whereas vocational education is targeted entirely at the demands of labour markets, i.e. the economic sphere only.

As indicated in Chapter 1, human capital will be defined within an economic context; further, human capital is embodied in both individuals and in organisations, and the acquisition of human capital is a process which also has a fixed value albeit not necessarily in economic figures.

Given these considerations, human capital is defined as '*the knowledge, skills, competences and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods, services or ideas in market circumstances*[16]'.

This is the basic understanding of human capital being formed around the formation and utilisation of knowledge, be it in individuals or in organisations. A third level can also be identified, i.e. the societal level, which in effect is the crude accumulation of individuals' and organisations' human capital[17].

2.2 A theoretical framework for reporting on human capital at enterprise level

Since human capital at enterprise level is relatively underdeveloped within economic theory building and at the same time emphasis for reporting on human capital at enterprise level is growing, it seems necessary to go beyond economic theories to explain this development. This can partly be captured by the emerging distinction between managers' perception of enterprises' relations with the surrounding world.

Three approaches can be identified[18]:

- the shareholder approach;
- the enlightened stakeholder approach;
- the stakeholder approach.

2.2.1 The shareholder approach

The shareholder approach equates the traditional identification of the management of a company with the shareholders of an enterprise. The approach follows the logic of enterprises being established and managed for the benefit of shareholders and for the benefit of actual and potential creditors.

Following this logic, accounting and disclosures are provided both for shareholders to exercice and maintain full control over the enterprise and for actual and potential creditors.

[16] This definition is based on OECD (1996) and OECD (1998) with two important deviations; collective human capital has been included whereas the non-market relation has been excluded. See also Grojer and Johanson (1996) and Bullen, Flamholtz and Sackman (1989).

[17] See the discussion in 1.1 above, or refer to Rouhesmaa and Bjurström from the Finnish Ministry of Labour 1996, Serageldin from the World Bank 1996, the European Commission 1996 and OECD 1996.

[18] The following part is primarily based on a consultation document from the Company Law Review Steering Group under the British Department for Trade and Industry 1999.

Given that shareholders are identified as those having an actual or potential economic interest in the enterprise, disclosures are primarily if not entirely related to the economic performance of the enterprise reported by means of figures.

Shareholder values thus reflect that it is the owners (and to a certain degree also the creditors) of an enterprise that exclusively define the objectives of the enterprise within the limits of public regulations and that the ultimate objective is to secure the maximum value for shareholders.

2.2.2 The enlightened shareholder approach

The enlightened shareholder approach also recognises that the ultimate objective of an enterprise is to secure the maximum value for shareholders; however, the means to achieve this end differ. This approach emphasises that an exclusive focus on the short-term financial bottom line may result in a suboptimum result for shareholders since sound long-term investments and, hence, long-term gains will not be sought.

This approach emphasises long-term relationships with employees, subcontractors, customers and others who may affect the long-term objectives of the enterprise. Further, they will respond proactively to trends and developments in society and to public regulations.

Still, the shareholders decide on the objectives of the enterprise.

2.2.3 The stakeholder approach

A contradictory argument summarised as the stakeholder approach, is that the ultimate objective of maximising shareholder value will not achieve maximum prosperity and welfare for neither shareholders nor other stakeholders or society as a whole.

This approach overrides the notion of shareholders as the sole and ultimate stakeholder of an enterprise. Rather, other stakeholders such as employees, subcontractors and perhaps even customers should provide equally relevant input into the formation of the enterprise's objectives and its management. It follows that companies cannot be identified through their shareholders alone. Instead, enterprises are identified as entities in society with their own ethos which management of the enterprise must comply with.

It follows from the three approaches that it depends on the management perspective of the company, the interests of the company as well as the best means to achieve these objectives, whether non-statutory reports and accounts will be developed and utilised.

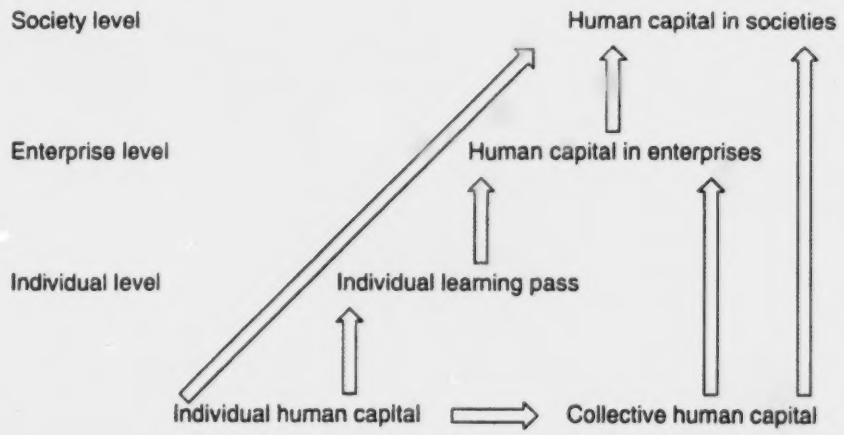
Growth in non-compulsory reporting at enterprise level suggests, however, that the traditional shareholder approach is diminishing in importance, and that the enlightened shareholder and the stakeholder approaches are growing in importance. This is reflected in many analyses of enterprises' roles in societies as well as in enterprise and government initiated initiatives focusing on the roles of enterprises outside those of money generation and provider of workplaces.

2.3 Reporting on human capital

Reporting on human capital is one of the means used by enterprises to address the dual aims of maintaining traditional shareholder values and also complying with the interests of stakeholders. As indicated in Figure 2.1 below, reporting on human capital can take place at three levels.

However, following the different approaches to enterprises, as discussed in 2.2 above, reporting on human capital is gradually changing its focus. Newly developed approaches link reporting on human capital within broader issues, such as internal management or external information provision, rather than focusing on accounting frameworks. The shift can be illustrated by saying that reporting is now becoming the means rather than the objective. This also implies that the notion 'reporting' must be interpreted in its widest meaning, i.e. a systematised disclosure of information rather than being associated only with financial statements.

Figure 2.1 Reporting on human capital



Clear cut demarcations between different approaches cannot be made, since most approaches tend to overlap. Nevertheless, even a primitive division of main approaches, as provided in Table 2.1, indicates the gradual shift of orientation.

This broad overview must be broken down to each level presented in Table 1.1 to understand recent developments better.

2.2.1 Reporting at individual level

Reporting on human capital does already take place at individual level, both formally and informally, by means of diplomas, certificates, written statements, curricula vitae, etc. Much work is currently taking place to provide even better reporting mechanisms for individuals' knowledge, for instance the European Union's promotion of the cross-national Europass for apprenticeships. Other initiatives include the identification, assessment and recognition of non-formal learning[19].

Complementary to individual human capital is collective human capital, the latter reflecting knowledge obtained in groups of individuals, be it in organisations or outside, which accumulates in individuals and perhaps also in organisations. Some researchers and practitioners refer to intellectual capital as the total of human, organisational and customer capitals. They define intellectual capital as follows: 'human capital is the knowledge that each individual has and generates; organisational capital is that knowledge that has been captured/institutionalised within the structure, processes and culture of an organisation; and customer capital is the perception of value obtained by a customer from doing business with a supplier of goods and/or services.'[20]

While organisational capital relates to the enterprise level alone, it does not encompass collective human capital formed outside the organisation. Inclusion of the organisation's culture is, however, interesting and may have connotations to other intangible assets, such

[19] For the latter, see Bjørnåvold 1997.

[20] Edvinsson 1997.

Table 2.1: Main approaches to reporting on human capital

Approach	Calculating costs of personnel policies	Human capital accounting	Human accounting management	Strategic management
Period of origin	mid 1960s	early 1960s	late 1970s	early 1990s
Characteristic	Financial utility of personnel selection	Financial value of enterprises' human capital	Learning and dissemination of knowledge as internal management strategy	The combination of financial indicators, human capital, internal business processes, customer relations and innovation
Methods applied	Utility analysis	Human resource accounting Human resource costing and accounting	The learning organisation Knowledge management	The Balanced Scorecard
Reporting framework	Cost and benefit calculations	Financial statements	Non-financial statements (if any)	Generic performance measurements

NB: period of origin indicates when the approach was introduced. The methods mentioned may, therefore, be much younger.

Table 2.2: Stages for reporting on human capital at enterprise level

Stage	Characteristics	Period	Methods
Stage 1	Human capital within accounting frameworks	From early 1960s	Human resource accounting Some utility analyses
Stage 2	Human capital within internally oriented management frameworks	From late 1970s	Learning organisation Knowledge management
Stage 3	Human capital within globally oriented management frameworks	From early 1990s	The Balanced Scorecard
Stage 4	Human capital as audit systems	From early/mid 1990s	Investors in People Benchmarking measures

NB: Each of the stages still exists, although Stage 1 in its purest form is declining, while Stage 4 is only just becoming apparent.

as goodwill. Still, it is outside the notion of human capital.

2.2.2 Reporting at enterprise level

Reporting at enterprise level is, as already stated, gradually moving from accounting to management principles and beyond. Four stages are thus observable, as indicated in Table 2.2.

Originally, the ambition was to put value on human capital within an accounting framework, i.e. to put a value on human capital and

include it as an asset in financial statements. While this element is still being debated among scholars, it is largely being deemed unrealistic, simply because the measurement problems seem unlikely to be overcome and, further, even if they were to be overcome, human capital does not generally qualify as an asset within accountancy standards[21]. Though some methods and approaches still consider this to be a viable path, the notion of enlarging financial statements with human capital assets is quickly fading away. The economic dimension still plays a dominant role, though.

The first stage is predominantly based on accounting principles, while the second stage is initiated from a management perspective focusing on the optimised use of human capital as a means to gain a competitive edge. The third stage operates with a global perspective, i.e. the enterprise and, consequently its human capital, interacting with the surrounding world. Human capital is a dominant element upon which strategies are formulated and implemented and forms a major input to the assessment of enterprises' total value.

The fourth stage combines basic information on investments in human capital with human capital strategies and evaluation of returns. At the current standing, this approach is fairly less ambitious than for instance the Balanced Scorecard and other, advanced management approaches identified at Stage 3. On the other hand, the more pragmatic approach seems to gain more momentum in that it can be a useful instrument internally and be used to benchmark enterprises within and across sectors as well as across countries. As such, it seems to be more applicable than other methods and, further, is more readily comparable to quality management systems and other alternative reporting mechanisms.

However, methods to be identified with the fourth stage leave out some of the black spots, which other methods have tried to respond to. Consequently, the fourth stage does not provide a solution to all relevant information needs related to the growing dominance of intangible inputs to production. The fourth stage must therefore be considered to be a pragmatic but also an incomplete solution to the demand for improved information on human capital at enterprise level, seen from the perspective of researchers and policy-makers. However, growing utilisation of audit systems and participation in benchmark programmes by enterprises indicates that the methods have a practical usability, which overrides theoretical and methodological concerns.

2.2.3 Reporting at society level

Estimations on the stock of human capital at society level is primarily done by measuring educational attainment – the highest level of education completed – of members of the adult population. As mentioned under 1.1, this method tends to overlook other important inputs to human capital not visible through formal education, such as work experience, non-formal learning, etc. Another more reliable method is to test individuals for certain abilities. However, this is possible only as spot which is difficult to attribute at national level.

Most reporting on the stock of human capital at society level has been linked with the societal returns on investments in education, i.e. human capital is defined as education or an input factor[22]. Consequently, these surveys do not provide a measure on the totality of human capital stock in societies, they merely reflect the societal investment level in formal education.

As was the case at enterprise level, incomplete proxy indicators and benchmarking rather than output measures are utilised to estimate and report on the stock of human capital at society level. However, some have started to push forward the need for a more sophisticated human capital account at national level, such as the Federation of Danish Trade Unions[23]. Further, the regional level is being introduced, among others by the World Bank.

[21] See International Accounting Standards Committee 1998.

[22] See Psacharopoulos 1994 and 1995.

[23] See Federation of Danish Trade Unions 1999.

2.3 Methodological considerations

From the previous sections it has become apparent that many weaknesses of reporting methods originate from lack of adequate measuring techniques. This relates primarily to identification of human capital and especially how to measure it.

2.3.1 Identification of human capital

Identification of human capital can be stratified into three elements: first, a consistent framework must be established which captures both the definition of the term itself and the levels and dimensions related to the term, e.g. as outlined in Table 1. Second, identification of the processes related to the acquisition, maintenance and development of knowledge at individual level must be established, since it is at individual level that knowledge is acquired, maintained and developed through learning, be it formal, informal or non-formal learning, and work experience[24]. Third, one must differentiate between individual and collective human capital. Collective human capital encompasses work organisation and processes, information networks and other forms of intangible, non-visible knowledge embedded in a group of persons rather than in individuals. It can to some degree be defined as knowledge that remains in the organisation even if individuals are replaced[25].

Identification of human capital and the various forms it takes to acquire, maintain and develop it have undergone considerable research in recent years, notably within the informal and non-formal segments of learning. Even though some theoretical and methodological difficulties are still present[26], it is justifiable to conclude with Hartog that '... the main problem is not so much how to define human capital as how to measure it'.[27]

2.3.2 Measuring human capital

Identification of human capital does not in itself imply that it will be measured. Given the intangible nature of human capital and the difficulties in establishing reliable measuring techniques, crude proxy indicators such as market value over booked value[28] or costs of input over output activities at enterprise level have been used rather than actual measurements[29].

Essentially, two different methods can be identified, one used to measure the stock of human capital and one used to measure the costs related to acquire, maintain and develop the stock of capital.

Non-economic measurement methods can be linked either to formal or to real human capital. Formal human capital will be measured through proxy indicators, such as educational attainment, years of schooling and/or other indicators such as job positions, number of years in job positions, etc. This is primarily related to individual and society levels. Real human capital can be measured directly at individual level by means of interviews, tests and/or examinations.

Economic measurement methods are related to the costs and benefits of acquiring, main-

[24] See Bjørnåvold and Sellin 1998, Bjørnåvold 1997.

[25] Scandia, a Swedish insurance company, has been one of the pioneers within organisational intellectual and structural capitals. For further details, see Edvinsson and Malone (1997). It must be noted that collective and organisational human/intellectual capitals do not merge totally, although for simplicity it is presented as such in this paper.

[26] See also Bjørnåvold 1997, European Commission 1997, Bjørnåvold and Sellin 1998, Frederiksen and Westphalen 1998. It should be noted that the focus on informal and non-formal learning should not be overemphasised given that the dominant feature on the labour market and related to competitiveness at individual, enterprise and society levels is still the level of skills identified through formal learning. Formal learning is thus also likely in the future to be the guiding determinant for competitiveness and job creation as illustrated by Pfeiffer (1997).

[27] See Hartog 1999.

[28] See Ernst & Young and OECD 1997.

[29] Refer also to Chapter 1 of this paper.

Table 3.1: The stakeholders at different levels

Level	Main stakeholders	Other stakeholders
	International state organisations	International organisations
Society	Governments	
		Local governments
	Trade unions	The 'political consumer'
Enterprise	Investors	Employers' associations
	Enterprises	
Individual	Employees	Subcontractors
		Potential employees
		Dependants

taining and developing human capital. This is related to all three levels, individual, organisation and society. This includes direct and indirect education and training and alternative costs as well as returns on any given investment, be it time and/or money. Further, it also includes returns on existing stock of human capital and depreciation of it.

The inability to establish reliable and verifiable measurement systems is the biggest challenge for reporting on human capital. However, despite the shortcomings so far in establishing a coherent measurement methodology, less technical hindrances also add to the reasons why such methods are not better developed, at least when it comes to measuring returns on any given investment in training:

- the cost-effectiveness of the training may be so obvious that formal evaluation is unnecessary;
- it may be impossible or prohibitively expensive to obtain the data necessary for a formal evaluation of training[30].

Identification of the stock of human capital may therefore to some degree be sufficient to identify future needs and demands, be it at individual, organisation or society levels. However, this leaves the economic dimension unexposed, and without measuring the economic consequences, over- and under-investment in human capital is less easy to detect as is choosing between alternative strategies related to human capital and, not least, the distribution of costs between different stakeholders.

3. Political considerations and the stakeholders

There are ultimately two paths for introducing reporting on enterprises' human capital on a large scale; public regulation or market forces. If both fail, i.e. if there is not sufficient political support or not enough market incentives, reporting on human capital will remain a technical exercise at macro-economic level and a description of knowledge, competences and skills at individual level.

In this process, the interests and dedication of the main stakeholders become vital.

3.1 The stakeholders

A stakeholder is defined as an individual, private organisation or public body having a direct interest in or being able to influence the widespread use of human capital reports. Table 3.1 provides an overview of stakeholders at various levels[31].

[30] See Dougherty 1992, p. 551-552.

[31] See Frederiksen and Westphalen 1998 for an in-depth stakeholder analysis. Table 3.1 is partly copied from this report, p. 24.

3.1.1 International state organisations

International state organisations are generally very active within the area of human capital. But even though the OECD has promoted investments in and to a certain degree reporting on human capital, it has so far abstained from clear recommendations and has not provided specific frameworks. The European Commission favours treating capital investment and investment in training on an equal basis. In this respect, the European Commission proposes that support structures be established at European level for the measurement of investment in education and training and promotion of investment in human resources[32]. However, the European Commission too, has abstained from specifically influencing development, i.e. they have not provided or supported specific frameworks[33].

3.1.2 Governments

Governments' interests can be summarised as a concern for efficiency of educational provision, cost sharing on further development of society's stock of human capital and internal optimisation of its own stock of human capital. Consequently, they have a self-interest as well as a societal concern for establishing reporting mechanisms on human capital. Governments may, therefore, be a driving force for popularising human capital reports or, ultimately, installing regulation for compulsory reporting at enterprise level. The Danish government has summarised as follows: 'We have to contribute to creating a basis for companies', consultants' and investors' use of intellectual capital accounts in Denmark by actively participating in international development of guidelines[34].' Until now, however, it is primarily Scandinavian governments and the Netherlands, which have supported pilot studies on how to report on human capital, both in private enterprises and public organisations[35].

3.1.3 Trade unions

Generally, trade unions are not deeply involved in reporting on human capital. Still, concerns on the approach to human relations at enterprise level have been raised. For instance, ILO has, in the context of the crisis of trade unions globally, stated that 'The inherent risk is one of focusing attention on a purely economic – even econometric – approach to human relations' (ILO 1997, p. 222).

Exceptions to this observation are, again, to be found in Scandinavian countries where trade unions have developed policies on reporting on human capital as well as participated in the development of framework models and the testing of them. LO, the Danish Confederation of Trade Unions, has been involved because: 'LO has certain reservations about tying employee development too closely to technical principles of accounting; and for that very reason, one of the critical points in the knowledge account will be whether we can manage to include the right things.[36]' Further, LO sees reporting on human capital as a means not only to fulfil economic requirements but also to meet social and ethical objectives and, furthermore, see it in connection with lifelong learning and the learning organisation, i.e. as a means to improve the workplace.

To secure maximum influence for its members, LO has developed a participatory strategy, i.e. it has developed information and training material so that members can influence the development of a HCA system. Still, it is important to note that this approach is based on the common interests of both enter-

[32] See European Commission, 1995, p. 70-72.

[33] See OECD 1996, Ernst & Young and OECD 1997, OECD 1998, European Commission 1995.

[34] Danish Ministry of Business and Industry, 1999, p. 3.

[35] See for instance www.efs.dk (English version exists on the site) for information on the Danish government's project. See also Dutch Ministry of Economic Affairs 1999.

[36] See foreword to LO, 1998. Knowledge account is the name of a human resource accounting system developed by Jan Mouritsen, Professor, for the Agency for the Promotion of Trade and Industry under the Danish Ministry of Commerce.

prise and employees. The cornerstone of this strategy is that employees be directly involved in and exert influence on enterprises' training and development programmes through informed discussions of the outcome of such programmes. The outcome is divided into work efficiency, creativity, staff turnover and absenteeism, which reflect both the enterprises' need for profitability and the employees' interest in a good working environment.

3.1.4 Investors

The *investors'* perspective has been the focal point for most of the work initiated by the OECD in this area. The reason has been the focus on measuring the real value of enterprises given that financial statements do not fully capture the intangible assets in enterprises, notably the knowledge of employees in high-tech sectors. However, until now investors have shown relatively little interest in such information.

The empirical findings in the Danish project further underline that enterprises do not have investors in mind as the primary target for producing human capital reports (see Chapter 3.1.5 below).

3.1.5 Enterprises

Reasons for *enterprises* to start reporting on human capital generally come from a belief in management that it will improve performance. Still, external pressures exerted by investors, trade unions or governments, or internal pressures exerted by trade unions or individuals may also influence the decision. Nevertheless, the decision to start reporting on human capital is taken by management of the enterprise and ambitions differ accordingly. Skandia, for instance, a Swedish international insurance company, considers new indicators and collects new data for their human capital reports, while the Danish Environmental Protection Agency bases their human capital report on existing human resource data[37].

Most commonly, enterprises introduce reports on human capital to obtain:

- an external information system to attract investors;
- an internal information system on human resource issues;
- a cost-benefit analysis of investments in human resources;
- improvement in human resource management.

However, many pilot projects indicate that other objectives besides the officially stated ones play an increasingly decisive role. These include[38]:

- maintain or improve enterprise image in society;
- indicate social responsibility and ethical values to the outside world;
- improve marketing to present and potential customers;
- benchmark human resource management and development;
- attract qualified labour force;
- retain qualified labour force.

A Danish project initiated by the Ministry of Business supports the theory that enterprises give a high ranking to human resource development in HCA. Of the 10 Danish and Swedish enterprises included in the project, nine list human resource development as the main objective in having an HCA. Only three enterprises include customers and only one enterprise lists investors and external reporting, respectively, in their objectives for HCA[39].

[37] See Frederiksen and Westphalen 1998, the case studies.

[38] See Frederiksen and Westphalen 1998, p.30.

[39] See The Danish Trade and Industry Development Council, 1997, p. 25-27.

However, when enterprises estimate the effects of their HRA, investors' and external stakeholders play a role almost equal to human resource development, productivity effects and creation of an enterprise spirit. This indicates that a non-stated objective behind much HCA is actually to acquire information directed towards investors and external stakeholders.

A more recent study provides more detailed information on the reasons behind enterprises producing human capital reports. Results of the study are presented in Chapter 4.2, Table 4.3.

Finally, it must be emphasised that use of HCA is already widespread in some countries. In a survey of human resource managers in companies with more than 200 employees located in Stockholm, Sweden, 70% of the respondents said they were applying HCA in some way. Most organisations had started at the beginning of the 1990s. An investigation conducted by the Swedish Association of Local Authorities found that 22% of the 276 respondents had decided to use HCA. Only from 5% to 15% of the personnel, accounting and financial managers asserted they were not interested in HCA[40].

3.1.6 Employees

Employees are listed as main stakeholders since they are the core element in any reporting mechanism being introduced and, further, reporting on human capital can be viewed as an instrument 'to create a new contract between company and employee. The individual takes responsibility for his or her own training. We are trying to create key figures for the new contract. The employee undertakes to seek knowledge and education, while the company undertakes to make the employee suitable for employment... This can lead to an "every man for himself" attitude'.[41] On the other hand, as expressed by a shop steward in an enterprise developing human capital accounts: 'There is nothing wrong with being measured and weighed, as long as it is done fairly.'[42]

Still, employees generally are not particularly interested until after it has been introduced by management.

In summing up; generally, stakeholders do not formulate policies or strategies concerning reporting on enterprises' human capital. Exceptions come from relatively few, isolated pilot projects at enterprise level formulated by dedicated management and, notably, from Scandinavian countries where both social partners and governments are actively involved. However, not even these countries or otherwise active international organisations have formulated clear policies and most work/support is still dedicated to testing and/or theorising rather than decision-making or active promotion of reporting frameworks.

3.2 Market forces or public regulation

Despite interest in reporting on enterprises' human capital, a clear strategy for popularising reporting on a large scale has not yet emerged. The core elements for a wider dissemination are thus related to relevance, applicability and promotion.

The *relevance* is not generally disputed by insiders. Most researchers, policy-makers and practitioners see the importance of reporting on human capital as a means to improve overall performance of enterprises. But, as indicated above, relevance has many faces following stakeholders' different objectives. Consequently, it remains questionable whether all objectives, insofar as they are being formulated by a small group of experts, dedicated practitioners or in general political statements, can be captured in one framework.

It follows that if the importance of reporting on enterprises' human capital is only captured by insiders and their judgement is correct,

[40] See Gröjer and Johanson, 1996. N.B. Johansson refers to the use of HRCA, which is one specific form of HRA.

[41] Jan Mouritsen, Professor, Department of Informatics and Financial Management at *Handelshøjskolen København*, from LO, 1998.

[42] Danish Ministry of Business and Industry, 1998, p. 12.

700

Table 3.3: Methods to promote reporting on human capital

Method	Explanation	*Examples*
The unstructured voluntary market-based method	Isolated pilot studies are initiated by individual enterprises or consultancy companies/ researchers develop and promote approaches and methods	Knowledge accounts Social reports Human resource audit Holistic balance sheet Intellectual capital statements
The systematised voluntary rewarding market-based method	Develop a consistent framework operational across sectors and countries and promote large scale through inherent rewards and image gains	ISO 9000 standards Benchmark programmes
The voluntary rewarding method initiated by public authorities	Develop a consistent framework supported by rewarding mechanisms once introduced and approved at enterprise level	Investors in People, UK European label for innovative projects in language learning, EU
The compulsory method	Identify disclosure on human capital as a public concern and prepare (inter)national regulations and standards	Green accounts, Denmark

NB: Since there is a lack of examples directly related to human capital, examples related to alternative reporting and quality standards are used.

then other factors limit the process from proceeding beyond the testing phase.

This leads to the *applicability* of reporting frameworks; i.e. whether applicable reporting tools can be established and, if so, what information to disclose; financial or non-financial indicators or both? It can be argued that even if human capital is a powerful analytical notion, only little progress has been made in terms of its practical utility[43]. Many pilot studies have failed when it comes to wider dissemination, either because the framework was too limited in scope, deemed unreliable for external use or because they lacked value added compared to other reporting tools.

Inevitably, wider dissemination depends on the establishment of a reporting framework, deemed both relevant, relatively easy to apply at enterprise level and subject to external audit. Further, reporting must be promoted and become available as well as attractive to a wider range of enterprises than have hitherto shown interest.

Four ways can be identified for promoting such a reporting framework, as outlined in Table 3.3.

The unstructured, voluntary market-based method has prevailed until now. This could be seen as an experimental phase where different methods and approaches are being tested. However, after almost 10 years of testing, the position is still not clear. Continuation of pilot tests indicates that either no reliable method has emerged, no consensus can be reached or that stakeholders are reluctant to commit themselves to a given standard.

Some would argue that this is also an indication that reporting on human capital will remain an internal management procedure or be part of an enterprise's external promotion catalogue with little general interest nor support. However, the Investors in People award programme, discussed in detail in Chapter 4, as well as the growing use of benchmark programmes suggest there is widespread interest in reporting on human capital when the framework for doing so is within practical reach at enterprise level.

[43] See Schuller, 1997.

Signals of market preferences for specific methods are thus emerging and a market standard within human capital reporting may be on its way. In contrast, there is little sign of public authorities at national or international levels, willing to commit themselves to promotion activities regarding voluntary rewarding mechanisms as is the case within other spheres of enterprise issues. It is surprising that since the European year of lifelong learning in 1996, despite governments and international organisations advocating strongly for increased investment in human capital, none – with the notable exception of the United Kingdom – have provided an awarding mechanism for reporting on such investments. The European Union, in particular, having introduced awarding mechanisms or supporting such mechanisms within environmental friendly production, quality promotion and, most recently, a European label for innovative projects in language learning, should feel an obligation to introduce such a scheme within reporting on human capital. Especially since it would supplement policies on lifelong learning which the European Union reintroduced in 1996.

Consequently, it seems unlikely that public authorities are going to issue any form of regulation in the near future. Therefore, if a standardised framework for reporting on human capital is to emerge on a similar scale as ISO standards or TQM within quality management, it must be market initiated[44].

4. Current reporting frameworks

The development of an advanced framework, which can capture the full range of human capital and report within reliable reporting mechanisms and be subject to standard auditing control systems, seems not to be a realistic option at the moment. Instead, current reporting frameworks concentrate on elements of the stock of human capital in enterprises, be it depreciation, formation or utilisation of human capital. Some, if not the majority, would not, however, classify themselves as human capital reporting tools. Rather, they are identified as management tools, cost and benefit analyses or quality training standards. This indicates that at enterprise level, reporting on human capital has to be related to practice, i.e. its usability should be clear for management. The best way of securing this is either through financial indicators, i.e. showing the relation between a given procedure and the costs and benefits or through improved management, i.e. showing that the policies introduced clearly improve overall performance.

There follows a description of approaches aiming at providing frameworks for developing some sort of human capital reports. The examples presented will only include approaches, which have already gained certain popularity or are likely to become widespread relatively quickly. Consequently, some examples are very limited in scope and may not rightfully qualify as a human capital account instrument, such as the Investors in People programme. They are included, none the less, because they do provide us with tools, indispensable in human capital accounts and because they highlight that financial indicators and overall performance are not necessarily the only reasons for undertaking investment in human resources.

4.1 Intellectual capital accounts, Denmark

The Danish Ministry of Business and Industry is testing a framework model for human capital accounts. The project started in 1997 and should be finalised in 2000 with a fully developed human capital account. Due to the time framework, there is a lack of details on specific guidelines to be developed from individual experiences. It is therefore not possible to present a human capital account framework, as such, but merely to present some mid-term experiences.

According to the Danish minister at the time, Mr Jan Trøjborg, the project should 'give an

[44] In 1991, the Swedish government proposed a legal obligation for organisations with more than 100 employees to provide an account of personnel costs in the annual report but withdrew it again.

Table 4.3: Firms own indication of motives for developing an HC report

The firm will use HC accounts to	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Retain employees	0.00	4.35	8.70	52.17	34.78
Attract new employees	0.00	8.70	8.70	17.39	65.22
Secure adequate training	0.00	0.00	8.70	43.48	47.83
Have a career planning tool	0.00	8.70	34.78	39.13	17.39
Secure updating of knowledge	0.00	4.35	21.74	17.39	56.52
Show that knowledge is the most important asset	0.00	0.00	4.35	30.43	65.22
Improve cooperation with suppliers	21.74	13.04	30.43	21.74	13.04
Attract and retain customers	4.35	8.70	13.04	8.70	65.22
Create innovation within the company	0.00	4.35	17.39	21.74	56.52
Show externally that the company is innovative	0.00	4.35	8.70	26.09	60.87
Show that human resources are the most important assets	0.00	4.35	0.00	21.74	73.91
Attract investors	21.74	17.39	30.43	17.39	13.04
Create opportunities for loans	43.48	26.09	17.39	4.35	8.70
Support strategies	0.00	0.00	8.70	26.09	65.22

NB: the survey is based on interviews with managers in 23 companies participating in the Danish project.
Source: Bukh, Larsen and Mouritsen 1999.

overview of the factors that create development within the company: the people working for it, their qualifications and the way in which they carry out their work... If things are not in order and are not consistent with the market or the strategy the company is following, this will become apparent in the intellectual accounts'.[45]

The Danish ministry stresses the need for a broad interpretation of knowledge and provides some examples of figures which could be included in an intellectual capital account[46]:

- costs of training,
- IT skills,
- the seniority value of each employee,
- running-in time for new organisational units,
- employee satisfaction,
- costs per process,
- customer satisfaction.

In 1999, the first report on the mid-term experiences of the project was published[47]. Each participating enterprise is developing a highly individualised human capital account and, consequently, experiences are individualised. Generalisation and guidelines will be developed by the end of 2000. Consequently, the experiences gained are not systematised other than the following rough indications of the enterprises' approaches[48]:

- some companies work with databases of employee competences;
- others work with systems for formalisation and sharing the company's experience re-

[45] Danish Ministry of Business and Industry, 1998, p. 3.

[46] See Danish Ministry of Business and Industry, 1998, p. 4.

[47] See Danish Ministry of Business and Industry, 1999. See also www.efs.dk.

[48] See Danish Ministry of Business and Industry, 1999, p. 4.

garding products, customers, technology and processes relating to knowledge of the different company and innovation processes, intellectual property rights, etc.;

- many companies have introduced employee and customer satisfaction analyses and thus view knowledge as more 'implicit' relations between persons;

- some companies focus on the description of organisational procedures regarding information technology, casework and other factors. Companies view knowledge as the mechanisms binding people, technologies and processes together.

A survey tried, however, to research the reasons why companies get involved in developing human capital accounts.

Based on this relatively small sample, it is clear that presentation of the company as a knowledge intensive enterprise to attract employees and customers and as support for overall business strategies are of overall importance. In contrast, that human capital reports are conceived for or aimed at investors and suppliers is of relatively little importance. This clearly indicates that human capital reports are used as much as external reporting tools as they are for internal management purposes.

The Danish government's interest in intellectual capital accounts must be seen in the macro perspective of maintaining the competitiveness of Danish enterprises. Further, they also see the testing of a framework for intellectual capital accounts as a means of establishing a common intellectual capital account internationally, thus expressing the role of governments to provide regulation.

4.2 The Finnish model

The Finnish Ministry of Finance established a project on human resource accounting in 1995 aimed at the public sector but attributable to private enterprises as well. Based on a working paper developed by the Finnish government together with its social partners, an HRA system with the following main categories was tested in the public sector[49]:

a) current personnel resources:

- amount and structure,
- use of the working time,
- labour costs,
- travel expenses;

b) future need for personnel resources:

- demand and supply of the personnel;

c) development and support of HR:

Motivation and ability to work:
- work satisfaction,
- competence,
- absence due to illness,
- absence due to occupational accidents,
- personnel turnover;

Personnel investments:
- development and support of work satisfaction and work ability,
- training and educational activities,
- occupational health services,
- replacement costs of the personnel;

d) HR output and productivity:

- financial indicators,
- customer satisfaction,
- job requirements, performance, merit pay;

e) financial HCA information:

Cost and income calculation:
- balance sheet calculation,

The data gathered provides information on[50]:

- how cost-effectively human resources are managed, so that the organisation benefits from its human capital as much as possible;

- how the organisation has taken care of its personnel, so that they have both quanti-

[49] See Rouhesmaa and Bjurström, 1996, Chapter 4.

[50] See Rouhesmaa and Bjurström, 1996, Chapter 4.

tatively and qualitatively adequate human resources;

- how the quality of work and working conditions, personnel resources, efficiency and personnel wellbeing has been handled.

According to a survey in 1998, HRA is implemented by 28% of respondents in the public sector[51]. However, the Finnish model seems closer to the French social accounts than to the Danish project on human capital accounts and the trend seems to be more and more towards broader intellectual capital accounting. Both private and public organisations are searching for alternatives to HRA and purely financial metrics and indicators[52]. Still, the HCA forms a solid background on statistical indicators for further development of the tool, be it for individual human capital reporting or supporting generic management tools.

4.3 Social accounts in France

Since 1977, enterprises have been required by law to provide social accounts in France (more than 300 employees from 1982). The social accounts are entirely for internal reasons and primarily aimed at providing information for the benefit of the employees' bargaining position towards management.

Social accounts provide a richness of detailed information on employees, education and training, etc. The number of indicators is counted in hundreds following specific descriptions and definitions. It is by far the most detailed compulsory reporting mechanism on employees that enterprises have to develop. This indicates the administrative and organisational burden on enterprises and, consequently, the problems in viewing social accounts as useful for management purposes.

Even if social accounts are not perceived as a human capital reporting method they are closely related. Presently, discussions are going on in France to improve the social accounts so they can be used for management purposes[53]. If successful, experiences from the social accounts will provide valuable information on definitions, gathering techniques, etc.

4.4 Investors in People, the United Kingdom

Investors in People (IiP) is a standard on training investments developed in the United Kingdom which has been in operation since 1991. In early 1999, more than 33,000 organisations (which include enterprises, schools, public and private organisations, etc.) covering 33% of the total workforce in UK were committed to the standard (according to statistics from DfEE). The standard has been introduced in other countries, albeit until now unsuccessfully.

The standard is a relatively simple training needs analysis within a larger framework oriented towards implementing structured training methods. The standard includes four principles (and 24 indicators) within an action line, as described in Figure 4.1 below. The standard is based on a common framework but with a high degree of flexibility within each indicator. Further, some indicators are policy- rather than process-oriented, such as management commitment. Of the four principles, one is solely devoted to commitment of management and awareness of employees.

The relatively broad framework does imply that each IiP plan is highly individualised according to the need and wishes of the individual organisation. From a standardisation point of view this is a weakness but from a usability point of view, i.e. the organisation itself, it is a strength which optimises use of the framework.

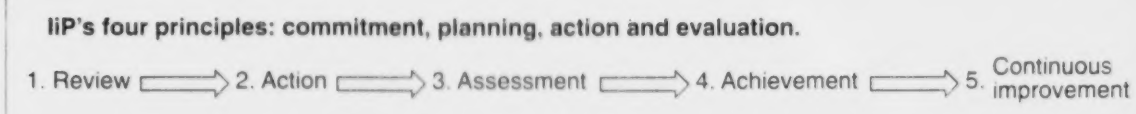
Once an organisation has been rewarded the investors award, it has to be renewed on a yearly basis. From year to year between 85 and 95% of awarded organisations want to maintain the award. The reasons are listed in Table 4.1 below based on a survey from 1995.

[51] See Eronen and Ahonen 1999, p. 7.

[52] See Eronen and Ahonen 1999, p. 3.

[53] See Fruleux 1999.

Figure 4.1 IiP principles and model



It is clear from Table 4.1 that organisations generally value the award albeit most of the reasons only indirectly relate to overall performance. This highlights the perspectives for new enterprise statements as well as the irrelevance for having such information tied into traditional financial statements; reporting on human capital via the IiP focus on training and training processes is simply operating on a different level. This is underlined by the anticipated benefits realised from organisations involved in IiP, as described in Table 4.2 below.

Again, the benefits are highly visible but it is meaningless to try to present this within the framework of a traditional financial statement. The problem is whether it can be reliably reported annually at organisational level with a satisfactory degree of comparability. And whether this is relevant as long as the relevance of using the IiP is obvious for the organisation itself!

4.5 ISO quality management – Guidelines for training; ISO/DIS 10015

The ISO standard on training was planned to come into force late in 1999 and forms part of the standards on quality assurance and quality management. The standard as such is not markedly different from other methods within the area of training needs' analyses but has the advantage of being an international standard. More importantly, it gradually builds up a database of the competences of employees in the enterprise having chosen the ISO standard which – eventually – can be easily adopted as a means to report on human capital.

Consequently, the interesting aspect of the ISO model, presented in Figure 4.2 below, is

Table 4.1 Reasons for maintaining the investors award

	%
Good for image of organisation	38.9
Better management of training	27.9
Improved training processes	26.3
Improve employee moral, motivation, commitment, etc.	20.3
Business benefits	15.5
Other	18.9

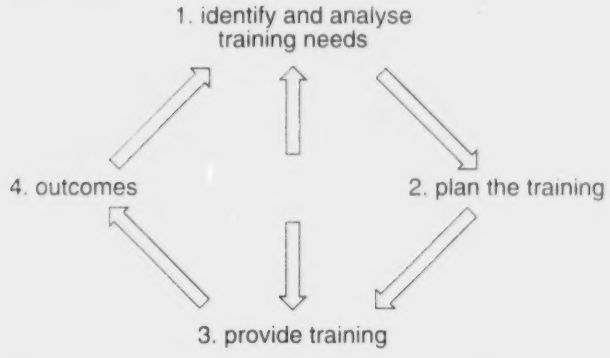
NB: multiple responses allowed.
Source: Hillage and Moralee 1996

Table 4.2: Anticipated benefits realised from organisations involved in IiP

	%
Improved staff motivation and morale	68.7
Improved workplace relationships	67.8
Improved skills and quality of workforce	65.3
Increased quality of goods and services	65.1
Improved image	62.5
Improved customer satisfaction	56.5
Improved financial performance	43.1

NB: multiple responses allowed.
Source: Hillage and Moralee 1996

Figure 4.2 ISO's training cycle



not the model as such but the perspectives for enterprises over time while using the standard. The standard will gradually build up a comprehensive database in each enterprise; a database which will provide a detailed overview of the competences and qualifications of the workforce, i.e. the enterprise's human capital.

It is the requirement to identify systematically the competences needed compared to the existing competence of its personnel. The ISO standard will provide a tool for standardising the information and, hence, the opportunity to store the information for future uses. It is specified that: 'the organisation should identify the competence needed for each task that affects the quality of products, assess the competence of the employees to perform the task, and develop plans to close any gaps'.[54] This provides the ultimate tool for mapping the present stock of human capital at enterprise level and constantly upgrade this information. Further, if used properly the standard will also provide information on the flow of human capital, both actual stocks and required stock, over time!

From this perspective, the ISO standard has the potential of paving the way for reporting on human capital.

[54] ISO 1998: Draft international standard ISO/DIS 10015, p. 7.

4.6 The current standing on human capital reporting frameworks

Human capital reports have been developed over the past 10 to 15 years. If human resource accounting and social reports count as human capital reports, reports have existed for the past 30 to 35 years. Still, reports combining measuring and managing human capital for both external and internal reasons are a recent phenomenon.

Even more recent are attempts to systematise the development of standardised human capital report frameworks. Currently, such attempts exist in Denmark, the Netherlands and in the international Meritum project under the European Union's TSER programme. In the latter participate Denmark, Finland, Norway, Sweden, Spain and France thus underlining that structured impulses are coming from the Scandinavian countries in particular. To this must be added numerous methods developed by consultant companies most of which, however, seem to be biased towards internal management objectives. This renders them incomplete if judged from the experiences of the Danish project and from the stakeholder analysis in Chapter 3. This is why the Dutch experiment has not been described in greater detail, because they formed a project by inviting four consultant companies to develop a human capital framework, which, in its initial stages seems to suffer from traditional consultancy weaknesses. Finally, the individual enterprise approaches

suffer from their very individual styles and lack of generalisation.

Consequently, the examples present the current state of the art outside individual attempts and consultant companies' methods. This may not look promising for the future of human capital reporting!

5. Research findings: from theoretical intentions to applicable methods

The first question is whether standard reporting tools can be developed? On the one hand, they do already exist but at such a low abstraction level that they only barely qualify as being a human capital reporting tool. On the other hand, the very problem is whether standards in an area where the process is deemed as important as the end result, i.e. the report, can be developed and made operational.

One way of solving the dilemma is establishing a minimum set of standard indicators, which will satisfy the need for reliability and comparability while still leaving room for manoeuvre taking individual requirements and perspectives into account. This is the approach guiding the Danish project although the framework as such is not yet developed.

The next question is whether reporting on human capital should be compulsory or voluntarily. This question is not yet answered definitively but it seems that public authorities are reluctant to force a reporting method on enterprises. Further, the French experience does not seem to support the idea of regulation. Having said that, it must be underlined that the intention behind the French' social accounts was to provide employees with a tool to strengthen their bargaining power against management. This approach will naturally hamper any perception of this being a tool for mutual benefit. Therefore, the French example is not of much relevance today and seems more to be an anachronism from an earlier era than being related to modern management and reporting ideas.

The final question is who is to ensure that human capital reports become widely used? Governments trying to steer development by incentives rather than by laws may pursue establishing one or the other variation of human capital reporting as a policy programme. It indicates that governments do commit themselves by supporting a specific framework but leave it to market forces supported by incentives to make it become widespread. This may be a very successful approach as in the UK case of Investors in People and is likely to be the approach adopted by the Danish government once their pilot project is finalised in 2000 and can be implemented.

But government regulation or steering is not the only way for reporting on human capital to become widespread as market forces may create their own momentum. This has been the case with quality and environmental standards, etc. Presently, different forms of human capital reporting, together with intellectual capital management, social accounts, ethical accounts, etc., are becoming inevitable elements in consultant companies toolboxes[55]. This may be a first indication of things being set in motion. However, it is still not clear in which direction.

The ISO 10015 on quality management of training, as well as the Investors in People programme, are examples of a minimalist approach to human capital reporting although training and related areas constitute a major element within reporting on human capital. Business Excellence, the Balanced Scorecard and other generic management approaches are at first sight all embracing. However, a closer look reveals that they are limited in three perspectives: first, they seem to operate on a high abstraction level. They do not provide tools or indicators, which can transform them into an operational tool at enterprise level. Notwithstanding their usefulness at a strategic level they remain theoretical tools. Second, and as a consequence of the first, these tools are of relatively little use in the day-to-day running of an organisation

[55] See for instance KPMG, Ernst & Young, Arthur Andersen, ICM, etc. Accountancy organisations are also exploring opportunities.

unless they are transformed into specific tools. This requires for instance a human capital reporting mechanism. Third, the need for providing reliable and valid information externally can never be fulfilled by these tools since they remain management tools.

Consequently, between the minimalist and generic approach specific tools are necessary, which can address the specific needs at enterprise level for gathering information as well as providing the framework for external reporting. This is the reason why experimentation is ongoing. Further, different stakeholders will have different orientation points and, hence, focus on different aspects. An inherent risk, unless governments are involved, may be that only incomplete reporting tools with fragmented or highly individualised frameworks will be developed. Frameworks that will not satisfy the full range of needs and demands, as expressed by a full range of stakeholders, will fail to become more than a short-lived fad.

6. Conclusion; recent trends and likely future of reporting on human capital

Human capital is about measuring and reporting fixed values and processes related to gathering, developing and disseminating knowledge. From this very broad framework, a new approach which combines reporting on and management of enterprises' human capital is emerging. The methods being developed focus either on specific elements or on the totality of elements constituting human capital and the utilisation of it.

With the increasing dominance of intangible assets, first and foremost knowledge in production, reporting on human capital seems to be a method on which future estimates on enterprise performance as well as future strategies can more efficiently be made. This is the advantage over other reporting methods, notably financial statements, and is the constituent factor in most strategic management tools developed in recent years. The benefits of human capital reports in this connection are that they include specific measurement elements on which most management theories fall short.

Potentially, human capital reports are therefore a complex form of measuring, reporting and acting at the same time[56] which may overcome the barriers between static measuring and active managing. However, there are substantial problems to overcome before the potential will be realised.

6.1 Society level

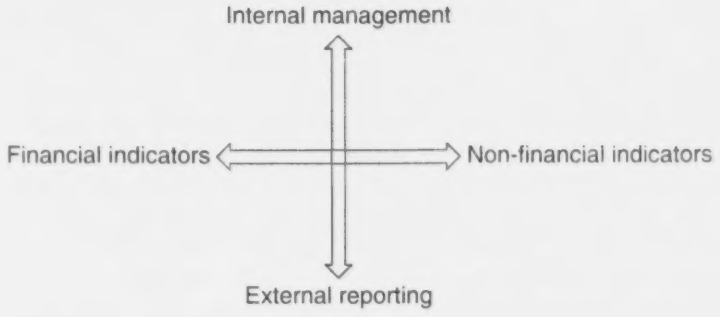
Reporting on human capital is still surrounded by a high degree of indecisiveness regarding its direction, as indicated in Figure 6.1 below. Although human capital is becoming part of mainstream macroeconomics and statistics, it still falls short of being used in a coherent manner. Rather, human capital is replacing the black holes in macroeconomic theory, which used to be covered under the notion of externalities or residual factors and, further, within macrostatistics, human capital has become synonymous with education alone.

This is primarily due to methodological problems deriving from the intangible nature of human capital indicating that direct measurement seems unlikely to appear in the near future. Instead, proxy indicators linked to factors feeding into the creation of human capital will prevail, and proxy measures related to output will remain on the level of comparisons. This may be in the form of benchmarking or through statistical observations of the correlation between input investments in human capital and output performance of economies, be it at micro or macro level.

It must not be neglected, however, that proxy indicators may be satisfactory for a number of purposes, although they may not provide a complete description. Indeed, the balance between full knowledge and operational measures does inevitably lead to imperfect information provision but also leads to constant improvements and refinements if only the scope changes. The very notion of reporting

[56] See Larsen, Bukh and Mouritsen 1999.

Figure 6.1 The crossroad for reporting on human capital



on human capital can thus be seen as a shift in orientation among economists, statisticians and other research areas on the one hand and policy-makers and other stakeholders on the other. The notion of human capital has resulted in inclusion of the enterprise level as a focal point for measuring investments in and returns on human capital formation in enterprises, which was relatively neglected by researchers and policy-makers for a long time.

6.2 Enterprise level

Enterprises are gradually showing more interest in reporting on human capital. There are a number of reasons for this development. The shift of responsibilities between the private and public spheres have made enterprises increasingly willing or under pressure to take on social responsibilities. Further, the emergence of the political consumer will force enterprises to respond to market pressures beyond the actual product being produced (e.g. working conditions, environmental protection and production methods). This has already led to pressure for reporting on human capital in some cases, e.g. as a minimum to document that child labour is not being exploited. Furthermore, in the light of a rapidly ageing population, which will make the labour force with the right qualifications scarce, enterprises are trying to find new means to attract and retain labour. Finally, the decentralised and individualised bargaining pattern will contribute to the mobility of the – well-qualified – labour force, thus intensifying the need for policies to retain the workforce.

Within the area of internal reporting and management tools at enterprise level, certain developments utilising human capital as defined in this paper have arisen. Although still primarily occupied with the input side, some programmes like Investors in People in the UK and various benchmarking programmes, do evaluate the return side based on a standardised framework.

Ambitious human capital report frameworks like the Danish project try to incorporate various elements while servicing both internal management as well as external reporting needs, as presented in Figure 6.1. Gradually, it appears that financial indicators become relatively less important while indicators related to human resource management, work environment and development and dissemination of knowledge gain momentum[57].

It is thus important to maintain focus on human capital reporting as a response to societal and industrial changes, leading to more transparent enterprises and organisations. Further, the development of new products, production methods and work organi-

[57] For more detail, please refer to the papers presented at the OECD symposium in Amsterdam, June 1999. http://www.oecd.org/dsti/sti/industry/indcomp/act/Ams-conf/symposium.htm.

710

sation, both internally and across companies, has created the knowledge society, which requires fundamentally different management and reporting tools from those of the industrial age.

The question is whether human capital will develop out of economic theories into a new reporting framework for enterprises with all its consequences. And if so, whether this framework will lead to a fixed set of standards relative to those within management and quality control. Another possibility – supported by the initial phases of the Dutch and Danish governments' pilot projects – may simply be government programmes for supporting and strengthening enterprises' use of human capital!

6.3 The future of reporting on human capital: the quest for indicators

Actual development of a standard reporting framework will depend on whether stakeholders will start formulating clear policies on human capital; if not, they may find themselves overtaken by consultants and practitioners developing their own brands. Eventually, one or a few of these will become market leaders, such as at the current stage of the Balanced Scorecard or the Investors in People programme in the UK. The risk, if considered to be a risk, may be that focus will be on short-term internal management needs and thus remain in the traditional shareholder perspective, and not incorporate the need for external reporting expressed by stakeholders. If this dissemination strategy prevails, human capital reporting is likely to be short-lived, never to become widespread, since consultancy methods are too limited in focus.

On further dissemination of reporting tools and having at least some standardisation, international organisations have, until now, been dragging their feet to avoid taking a clear standpoint despite expressing strong, general support. Scandinavian governments and social partners and the Dutch government have begun to position themselves, generally along a stakeholder approach. It seems likely that human capital reporting frameworks with a minimum of standardised indicators will emerge. They will not become compulsory, at least in the short term, but will be promoted through financial, consultative and/or political incentives.

Enterprises are increasingly operating with alternative internal and external reporting systems, from financial statements over green accounts to ethical accounts with human capital reporting being only one (sub)system. Thus, given that a single human capital reporting method has not manifested itself qualitatively nor quantitatively so far, relatively few enterprises are utilising human capital reporting. Instead, widespread management approaches like the Balanced Scorecard, the learning organisation and business excellence prevail and are often, misleadingly, believed to encompass human capital reporting, although they would greatly benefit from doing so.

Unless general approaches are developed supported by governments and/or international organisations, human capital reporting is likely to focus increasingly on the management perspective only while neglecting the measurement and reporting elements. If this is the future, other benefits of human capital reporting, such as attracting qualified employees, will not be fulfilled.

On the other hand, if a set of minimum indicators is established, which is the likely outcome of the Danish project, the potential of human capital reporting is likely to be reached for the benefit of not only management but also for other stakeholders. The Danish project has from mid-1999 become a Scandinavian project, which further underlines that human capital reporting is gaining momentum!

Bibliography

Argyris C., Schön D., 1978. *Organizational learning. A theory of action perspective*. Massachusetts.

Barrett A., Hövels B., den Boer P., Kraayvanger G., 1998. *Exploring the returns to continuing vocational training in enterprises; a review*. Cedefop, Thessaloniki.

Barro R.J., Lee J.W., 1993. *International comparisons of educational attainment*, National Bureau of Economic Research Working Paper No 4349.

Bjørnåvold J., 1997. *Identification and validation of prior and non-formal learning*. Cedefop, Thessaloniki.

Bjørnåvold J., Sellin B., 1998. *Recognition and transparency of vocational qualifications; The way forward*. Cedefop, Thessaloniki.

Blaug M., Where are we now in the Economics of Education? *Economics of Education Review*, **4** (1), 1985

The British Department for Trade and Industry, 1999. *Modern company law, for a competitive economy; the strategic framework*. A consultation document from The Company Law Review Steering Group, London.

Brummet R.L., Flamholtz E.G., Pyle W.C., 1968. Human resource measurement: a challenge for accountants. *The Accounting Review*, 43.

Bukh P.N.D., Larsen H.T., Mouritsen J., 1999. Developing intellectual capital statements: Lessons from 23 Danish firms, paper presented at the *OECD workshop on Intellectual Capital, Amsterdam, June 1999*.

Bullen M., Flamholtz E., Sackman S., 1989. Human resource accounting: A state-of-the-Art review. *Journal of Accounting Literature*, **8**.

Coleman J., 1988. Social capital in the creation of human capital. *American Journal of Sociology*, **94** supplement S 95-120.

Cronbach L.J., Gloeser G.C., 1965. *Psychological tests and personnel decisions*. Illinois.

Danish Trade and Industry Development Council, 1997. *Intellectual capital accounts*, Copenhagen.

Danish Ministry of Business and Industry, 1998. *Intellectual capital accounts. A new tool for companies*. Copenhagen.

Danish Ministry of Business and Industry, 1999. *Developing intellectual capital accounts. Experiences from 19 companies*. Copenhagen.

Deiaco E., Hörnell E., Vickery G. (eds.), 1992. *Technology and investment: Crucial issues for the 1990s*, London.

Dougherty C., 1992. Evaluation of the economic labour market effects of continuing education and training: practice and policy issues. *International Journal of Educational Research*, **17**.

Ducharme L.-M., 1998. Introduction: Main theories and concepts. *In*: OECD, ed. *Measuring Intangible Investment*.

Dutch Ministry of Economic affairs, 1999. *Immateriële Productiemiddelen. Balanceren met Kennis*, Den Haag.

Edvinsson I., 1997. Developing intellectual capital at Skandia. *Long Range Planning*, **30** (3).

Ekstedt E., 1988. *Humankapital i brytningstid*, Stockholm.

Ernst & Young and OECD, 1997. *Enterprise value in the knowledge economy*, Cambridge MA.

Eronen A., Ahonen G., 1999. Accounting for intellectual capital, Finland. Paper presented at *OECD-workshop on Intellectual Capital, Amsterdam, June 1999*.

European Agency for Safety and Health at Work, 1998. *Economic impact of occupational safety and health in the Member States of the European Union*, Bilbao.

European Commission, 1995. *Teaching and learning: towards the learning society*, Luxembourg.

European Commission, 1996. *The economic dimension of education and training in the Member States of the European Union*,. Luxembourg.

European Commission, 1997. *Transparency and recognition of qualifications: situation and outlook*. DGXXII, Bruxelles.

Federation of Danish Trade Unions, 1999. *The national human capital accounts*, Copenhagen.

Flamholtz E., 1985. *Human resource accounting*, Los Angeles: Jossey-Bass Publishers.

Frederiksen J.V., Westphalen S.-A., 1998. *Human resource accounting: Interests and conflicts*. Cedefop, Thessaloniki.

Fruleux D., 1999. Le bilan social dans les entreprises Francaises. Paper presented at the *Cedefop workshop on human capital, Thessaloniki, June 1999*.

Fukuyama F., 1995. *Trust: the social virtues and the creation of prosperity*, London.

Goleman D., 1996. *Emotional intelligence: Why it can matter more than IQ*, Bloomsbury Publishing.

Gröjer J.-E., Johanson U., 1996. *Human resource costing and accounting*, Stockholm

Guest D.E., 1997. Human resource management and performance: a review and a research agenda *International Journal of Human Resource Management*, **8**(3), p. 263-276.

Hartog J., 1999. *Behind the veil of human capital. OECD Observer*, No. 215 – Jan/Feb 1999.

Hillage J., Moralee J., 1996. *The return on investors*. Ies report 314, Brighton, the United Kingdom.

Hodgson A., Okunev J., Willett R., 1993. Accounting for intangibles: A theoretical perspective. *Accounting and Business Research*, **23** (90), p. 138-150.

International Accounting Standards Committee, 1998. *IAS 38, Intangible assets*, London.

International Labour Organisation, 1997. *World Labour Report 1997-98: Industrial relations, democracy and social stability*, Geneva.

ISO, 1998. *Draft international standard ISO/DIS 10015*, Geneva.

Johanson U., Eklöv G., Holmgren M., Mårtensson M., 1998. *Human resource costing and accounting versus the Balanced Scorecard*. OECD, Paris.

Kaplan R., Norton D., 1992. The Balanced Scorecard – measures that drive performance. *Harvard Business Review*, **70** (1).

Kirkpatrick D.L., 1959. Techniques for evaluating training programs, *Journal of ASTD*, **13** (11).

Kirkpatrick D.L., 1994. *Evaluating training programs. The four levels*, San Francisco.

Kämäräinen P., Streumer J., 1998. Curriculum development, new learning environments and transfer of innovations in Europe. *In*: Cedefop, ed. *Vocational education and training – the European research field*, Background report, Vol. II, Thessaloniki, pp. 155-182.

Larsen H.T., Bukh P.N.D., Mouritsen J., 1999. Intellectual capital statements and knowledge management: "measuring", "reporting", "acting". To be published in *Australian Accounting Journal*.

LO, 1998. *Your knowledge – can you book it?*, Copenhagen.

Lucas R.E., 1988. On the mechanics of economic development. *Journal of Monetary Economics*, **22** pp. 3-42.

Mandag morgen, Strategisk Forum, 1999. *Kompetenceradets rapport 1998*, Copenhagen.

McCallum, Bennett T., 1996. Neoclassical vs. endogenous growth analysis: An overview. *Federal Reserve Bank of Richmond Economic Quarterly*, **82**(4).

McGregor D., 1960. *The human side of enterprise*, McGraw-Hill.

Mincer J., 1993. *Studies in human capital*, Edwar Elgar England.

Mårtensson M., 1997. *Knowledge management – a literature review and a case study*. Stockholm.

Mårtensson M., 1998. *Translation of knowledge*. Stockholm.

OECD (annually): *Education at a glance*, Paris.

OECD, 1996. *Measuring what people know*, Paris.

OECD, 1998. *Human capital investment*, Paris.

Patterson M. G, West M.A., Lawthorn R., Nickell S., 1997. *Impact of people management practices on business performance*. University of Sheffield and London School of Economics, London.

Pfeiffer F., 1997. *Human capital and innovation in East and West German manufacturing firms*, Discussion paper No. 97-08 E. Zentrum für Europäische Wirtschaftsforschung GmbH, Mannheim.

Psacharopoulos G., 1995. *The profitability of investment in education: concepts and methods*. Working paper, the World Bank.

Psacharopoulos G., 1994. Returns to investment in education: A global update. *World Development*, September.

Psacharopoulos G., Ariagada A.M., 1986. *The educational attainment of the labour force: an international comparison*, Report No. EDT 38, Education and Training Department, The World Bank.

Putman R., 1995. Tuning in, Tuning out: The strange disappearance of social capital in America. *Political Science & Politics*, **28**(4), pp. 664-683.

Rebelo S., 1991. Long-run policy analysis and long-run growth. *Journal of Political Economy*, **99** pp. 500-521.

Rouhesmaa H., Bjurström L.-M., 1996. *Human resource accounting in Finnish enterprises*. Working paper from the Finnish Ministry of Labour.

Schuller T., 1997. Social capital: A necessary environment for human capital. Paper presented at the OECD seminar on *"The role of comparative international indicators of human capital investment in public policy."*

Schultz T., 1961. Investment in human capital. *The American Economic Review*, pp. 1-7.

Senge P.M., 1990. *The fifth discipline?* New York.

Serageldin I., 1996. *Sustainability and the wealth of nations: First steps in an ongoing journey*. The World Bank, New York.

Steedman H., 1996. *Measuring the quality of education outputs: some unresolved problems*. Discussion paper no. 302, Centre for Economic Performance at London School of Economics and Political Science.

Subbarao A.V., Zèghal D., 1997. Human resources information disclosure in annual reports: An International Comparison. *Journal of Human Resource Costing and Accounting*, **2**(2).

Weiss A., 1995. Human capital vs. signalling explanations of wages. *The Journal of Economic Perspectives*, **9**(4).

World Bank, 1999. *Social capital database*, www.worldbank.org

Vocational training research on the basis of enterprise surveys: An international perspective

Lutz Bellmann

Abstract

Reliable information on trends in labour market demand and enterprises' skills requirements is increasingly of interest not only to those researching the labour market and occupations but also to the labour market players themselves. However, as yet only inadequate information on establishments and enterprises is available. One result of this is that research activities are concentrating on the supply side of the labour market.

The presentation of empirical studies based on establishment and enterprise data demonstrates the potential that research of this kind offers for vocational training research. This report therefore covers the skills requirements arising in the context of enterprises' increasing flexibility, in-company vocational training and the employment of trainees on completion of their training, and the trends discernible in the field of continuing in-company training. In this context, matched employer-employee data records are also discussed. With data records of this kind, it will in future be possible to analyse labour market demand and supply jointly.

The advantages, but also the disadvantages, of longitudinal surveys as opposed to cross-sectional surveys are also brought out. The advantages of longitudinal surveys lie in the survey, i.e. the fieldwork, the sampling and the questionnaire design. Longitudinal analysis, as opposed to cross-sectional analysis, offers other advantages in the shape of the allowances made for the heterogeneity of individual businesses, and consideration of the links between cause and effect and of processes of adjustment. Certain questions can be analysed only by means of panel data. The increased significance of measurement errors and selectivity problems can be regarded as a disadvantage of longitudinal data, including the panel mortality caused by various factors. As a rule, the collection of longitudinal data is considerably more costly and time-consuming, and it also takes a few years before evaluations of them can be presented.

715

Table of contents

1. Introduction 281

2. Vocational training studies based on establishment and enterprise data 281
2.1 Introduction 281
2.2 Promotion of flexibility in enterprises 282
2.2.1 Business process re-engineering 282
2.2.2 Case studies 283
2.2.3 Studies based on the IAB establishment panel 283
2.3 In-company vocational training and employment of trainees on completion of training 284
2.3.1 Overview 284
2.3.2 Company training intensity and participation in training 285
2.3.3 Employment of trainees in the training enterprise after completion of training 285
2.3.4 Early recognition system for skills trends 286
2.3.5 Costs and benefits of in-company vocational training 287
2.4 The trend in in-company continuing training 287
2.4.1 Overview 287
2.4.2 Studies on the returns from in-company continuing training 287
2.4.3 Determinants of in-company continuing training 288
2.4.4 Continuing training surveys by the institute of German trade and industry 290
2.4.5 Eurostat (Statistical Office of the European Communities) Continuing Vocational Training Survey (CVTS) 290
2.4.6 Benchmarking by the American Society for Training and Development (ASTD) . 292
2.5 Matched employer-employee data records 293
2.6 Establishments or enterprises as survey units 294
2.7 Interim summary 295

3. Advantages and disadvantages of longitudinal as opposed to cross-sectional studies 297
3.1 Overview 297
3.2 Sampling 298
3.3 Fieldwork 299
3.4 Questionnaire design 299
3.5 Evaluation 299
3.6 Interim summary 301

4. Conclusions 302

5. Summary 303

Bibliography 306

716

1. Introduction

Politicians, scientists and employers themselves have an increasing interest in reliable information on trends in labour market demand and companies' skills requirements. The main reasons for this are the persistently high level of unemployment and the associated under-utilisation of human resources, and reinforcement of the quality of locations via investment in human capital. The OECD's Jobs Study (1996), for example, cited lack of flexibility on the part of companies as one of the main reasons for the European employment problem.

However, in comparison with the data available on the supply side of the labour market, the data available on the demand side is inadequate. Hitherto, various public bodies and research institutes have concentrated on surveying individuals. Establishment and enterprise data is systematically collected, but seldom with regard to employment and skills aspects and the variables determining these.

In order to be able to analyse and possibly reduce the continuing problems in the context of the labour market and training, there is a need for reliable data on the demand side of the labour market. Hamermesh (1993, p. 400) has also drawn attention to the interdependence of research activities and data availability thus addressed.

Naturally, vocational training issues are among the most important subjects that can be researched using establishment and enterprise data (cf. e.g. Lynch 1998, p. 54).

This report will therefore describe the potential which analysis of establishment and enterprise surveys holds for vocational training research. This will be done in several stages.

The *next section* presents a review of research dealing with issues relating to vocational training and continuing training and to company skills requirements on the basis of establishment and enterprise data. The review includes both studies with particularly high-quality data records, in particular panel data records, and studies with particularly interesting but non-representative data records. Panel data records are preferable to one-off cross-sectional surveys, not only owing to the more interesting evaluation options they offer, but also for technical reasons associated with surveys and questionnaires.

Section 3 therefore systematically compares the advantages and disadvantages of these two methods of gathering data.

Section 4 contains conclusions in the form of recommendations for structuring and evaluating company and enterprise surveys focusing on vocational training and continuing training.

2. Vocational training studies based on establishment and enterprise data

2.1 Introduction

In the field of vocational training research, there are very many questions which can really only be adequately analysed by using and combining both personal and company/enterprise data. In addition to the trend in the skills structure and skills requirements and questions relating to recruitment and the quest for staff, they include any problems arising with particular skills groups and with employment under-utilising skills (over-education), and also the increasingly important evaluation of publicly subsidised training and continuing training.

These are, of course, interesting and important topics, but are mentioned only in passing in this report, which concentrates on the following topics: skills requirements generated in the context of increased flexibility in companies, in-company vocational training and employment of trainees on completion of training (so-called second threshold), and the development trends discernible in the field of in-company continuing training. Not only do these topics cover major fields of debate, but they are also particularly suitable for demonstrating the potential of establishment and

enterprise surveys for vocational training analysis.

2.2 Promotion of flexibility in companies

The European Commission has emphasised the link between external and internal flexibility and their significance for economic growth, competitiveness and employment. In a world of increasing competition, companies are endeavouring to structure work organisation more flexibly in order to be able to respond more appropriately to external challenges and opportunities (cf. European Commission 1993). In the process, it has been acknowledged that workforce flexibility is the key to entrepreneurial success. A particularly crucial part is played by the capacity of employees to adapt in line with business needs by acquiring new knowledge and skills.

2.2.1 Business process re-engineering

Since the early 1990s, in management practice all sectors have adopted a management concept rightly described as a 'megatrend' and by some as a 'management revolution'. Lean production, lean management, lean enterprise and lean company are terms in common use. The more wide-ranging term 'lean management', or 'business process re-engineering', is superseding 'lean production', because the aim is to structure not just the plant or factory but the company as a whole in accordance with lean principles (cf. Hammer and Champy 1994).

'Lean' organisation structures differ markedly from Taylorist forms of organisation, which produce significant 'organisational waste' in the form of job and interface ballast. All reorganisations are aimed at making better use of the potential skills and motivation of on-site employees (cf. e.g. Frieling 1992). To this end, powers and responsibility are consistently decentralised.

The current range of reorganisation measures includes, in particular:

- flattening of hierarchies (hierarchical levels, management spreads);
- segmentation by creating autonomous and autarkic 'centres' (integration of functions, holding structures, new independence for parts of the company in their locations, fractal plant, manufacturing islands, companies within companies);
- learning organisation in the sense of transferring improvement processes from central staff departments to specialist departments (continuous improvement process);
- intensification of teamwork (semi-autonomous teams, project teams, work circles, coordination bodies);
- and total quality control (TQM), i.e. monitoring and maintenance of quality at all business and production levels.

Brewster, Hegewisch and Mayne (1994) criticise the fact that labour market flexibility has usually been measured and regarded as a problem not from the corporate point of view, but indirectly via staffing increases and decreases (numerical flexibility), atypical and also precarious employment relationships, part-time work, fixed-term contracts, seasonal employment and labour-law regulations. It is true that the distinction between core and marginal workforces leads back to company level, whether it be under the segmentation theories of the 1970s (cf. Doeringer and Piore 1971, Sengenberger 1975) or Atkinson's (1985) concept of the flexible company, but it remains blurred, with little empirical foundation and strategically unclear, since it is not possible to verify that companies form and use core and marginal workforces as part of their personnel strategy.

In any case, the combination of the two arguments led to the finding that labour market flexibility outside companies is closely linked to flexibility within them. If external flexibility is too high or too common, this can have a negative impact on per capita productivity, the business commitment to efficient workforces, recruitment, and the necessary job rotation within the enterprise. There is no in-company training or continuing training for temporary staff, employees with fixed-term contracts, persons in seasonal employment, persons in

718

insignificant employment, part-time workers, marginal workforces, etc., one reason being that it is not economic.

This means that functional flexibility in companies and for all personnel is crucial to the ability to tackle external requirements necessitating adaptation strategically, in the sense of a company policy decision geared to the long term. Thus productivity advances must be organised, work organisation must be adapted in line with market, customer and production requirements, collectively agreed and individually desired working hours must be balanced out with the longer operating times required, and in-company skills training and participation of employees must be extended.

The slimming down of large private companies, whose depth of production has been reduced in the context of lean management concepts, has also led to hiving off of service areas and the emergence of service enterprises close to the means of production. The effect of these developments on the capacities, skills and competences required in enterprises of different sizes is therefore at the top of the research agenda.

2.2.2 Case studies

Looked at empirically, human resources management practice has been the subject of company case studies in many European countries, such as the Price Waterhouse Cranfield study (cf. Brewster et al. 1994), and studies by Hutchinson and Brewster (1994) and Doherty and Nyhan (1997). It is also interesting to compare trends in these companies and US companies, and such a comparison definitely indicates that they are converging (cf. Nyhan 1999). Case studies have also given rise to work on intellectual capital accounts (cf. Westphalen 1999, Danish Agency for Trade and Industry, Ministry of Business and Industry 1999).

Given the arguments put forward, it is not surprising that there is a widespread view that the focus on labour market flexibility is too narrow and a broader perspective based on organisation theory should be chosen. The Swedish NUTEK study (1996) defines flexible organisations on the basis of four characteristics: organised improvement of knowledge and capacities, delegation of responsibility, flat organisation structures and individualised pay systems. From this perspective, the key interest lies in findings on the structure of the organisation as a whole, its human resources and strategy, and not simply in the way in which workers are used.

2.2.3 Studies based on the IAB establishment panel

As with the NUTEK study (1996, esp. Chapter 4), therefore, the empirical analysis in the study by Bellmann et al. (1996) focuses on the distribution of flexible organisations. Thus the authors do not simply provide an overview of increased flexibility of working hours and business processes and flexible wages, but also report on product and process innovations, research and development, and the position in respect of training and continuing training. On the basis of the employment statistics of the Federal Institute for Employment, information was also provided on the significance of newly created and altered employment structures.

There is still great scientific interest in the impact on employment – including individual skills groups – when flexible forms of organisation are introduced and extended. Bellmann (1999) investigated the impact on employment of innovative processes and organisational change for individual groups of employees with the IAB [Institute of labour market and vocational research – *Institut für Arbeitsmarkt- und Berufsforschung*] establishment panel. The IAB establishment panel (cf. Box 1) is a survey of establishments carried out annually in Germany since 1993, which provides a representative view of all establishment size classes and sectors.

Since 1996, the survey has also been carried out in the new *Länder* and East Berlin, so that in 1998 approximately 10000 establishments were involved in the panel. In order that new establishment creations and establishment closures can be included, every year new establishments entering the market are incorporated into the panel. Survey units are

Box 1: IAB establishment panel

Oral survey, annual, from 1993 onwards in West Germany and from 1996 onwards in East Germany too.

Questionnaire: standard element and changing focal points
Scope of survey: 9200 (1998) establishments
Sampling based on the establishment file in the employee statistics of the Federal Institute for Employment.
Topics in the IAB establishment panel:

- Number of persons employed and employment trend
- Skills and employee structure
- Business policy, business planning and investment
- Training places
- In-company training and continuing training (1997 and 1999)
- Wages and salaries
- Working and business hours (1999)
- Public support via wage and investment subsidies
- Contact with the employment office (1995)
- Works council and collective agreements

Sources: Bellmann (1997); Bellmann et al. (1998).

drawn from it on the basis of the employment statistics of the Federal Employment service, which are also used to weight the data collected (cf. Bender et al. 1996).

The employment trend in the period from 1993 to 1996 in the old *Länder* shows a decrease in workers without vocational training, while the other skills groups have increased. This applies particularly markedly to graduates. The findings of the IAB establishment panel also show that the employment trend is more favourable in establishments in the manufacturing industry and in closely associated services implementing innovative processes. This affects skilled blue- and white-collar workers in particular. Organisational changes (such as teamwork, flattening of hierarchies, downward transfer of responsibility, combined departments, institution of units calculating costs and profits themselves, introduction of just-in-time production) reduce the number of employees, at least in the short term.

In the longer term, however, in the wake of organisational changes an increase ensues in the employment of individual skills groups, e.g. skilled workers. There is a great potential for organisational change in small and medium-sized enterprises (SMEs) in particular in the next few years, since there is empirical evidence that here flexible forms of organisation are much less common than in larger enterprises. It is also apparent that improvements in technical status and organisational changes have a negative effect on the trend in part-time employment.

2.3 In-company vocational training and employment of trainees on completion of training

2.3.1 Overview

This section reports on studies by Dietrich and Bellmann (1998) and Bellmann and Neubäumer (1999a, 1999b) based on the IAB establishment panel, on the subject of determinants of company training intensity and participation in training and of employment of trainees by the companies providing training on completion of training. It goes on to describe the 'early recognition system for skills trends', in which a total of nine research institutes in Germany are involved. Last but not least, it reports on the research of Bardeleben et al. (1995) on the costs and benefits of in-company vocational training.

720

2.3.2 Company training intensity and participation in training

Using the data from the IAB establishment panel, Dietrich and Bellmann (1998) and Bellmann and Neubäumer (1999a) investigated the attitude to training in companies in West and East Germany. The studies cited contain representative findings on enterprise participation in training, measured as the number of establishments in relation to all establishments (training company ratio) and as the number of trainees in relation to employees liable to contribute to social security (training ratio), in both cases by sector of the economy and establishment size. The determinants of the training company ratio and the training ratio are also analysed.

This shows that SMEs provide an above-average amount of training. The ratio falls with establishment size. This means that when SMEs provide training, they train a relatively large number of young people in proportion to their number of employees. As many very small enterprises provide no training whatsoever, the training company ratio rises with the size of the company. These two overlapping trends mean that in West and East Germany, more than 50% of all trainees are found in establishments with fewer than 50 employees.

In a multi-variant analysis, the number of trainees is treated as a dependent variable and possible reasons determining this as an independent variable. All data available for the years 1993-1997 is used (this means, for example, that enterprises repeatedly involved in the survey are taken into account more than once). This leads to a substantial increase in the number of cases to be incorporated into the analysis.

This analysis of the attitude of establishments to training results in the following finding: in addition to the general trend of a reduction in the number of establishments in West Germany providing training between 1993 and 1997, the sector, size and anticipated turnover of the enterprise and the proportion of skilled workers and women in its workforce, as well as the type of region (city, surrounding countryside or other) in which it is located prove to be the determinants helping to explain ongoing training activities in an enterprise. The sectoral comparison possible on the basis of the IAB establishment panel shows above-average training activity in establishments in the production sectors of the chemicals industry, iron and steel production and vehicle manufacture, while there is below-average participation in dual training by the production-oriented service sectors.

Bellmann and Lahner (1998b) also investigated, again on the basis of the IAB establishment panel, why establishments do not provide training. Questions were asked about the possible lack of the necessary preconditions in establishments (justifiability of training), but also about training costs, later employment of trainees who successfully complete their training, and the lack of suitable applicants, as reasons why enterprises are less willing to provide training. A question was also asked about the involvement of employment offices in arranging training places.

Lastly, establishments were also asked if they wished to extend or restrict their training activities. This information can, for example, be compared with the anticipated employment trend (cf. Bellmann and Lahner 1998a). This shows that, on average, establishment training provision in the establishments surveyed has not decreased to the same extent as employment.

2.3.3 Employment of trainees in the training company on completion of training

In principle, the transition from school-based forms of training in dual training into employment is still a relatively smooth one for young skilled workers. Here, the fact that companies are involved in training is advantageous. However, the difficult situation on the labour market also affects the entry into working life of those starting out on completion of training.

Bellmann and Neubäumer (1999b) investigated employment by the training company of trainees who successfully complete their training, on the basis of the IAB establishment panel.

The study discusses the influence of the relevant sector, establishment size, the anticipated trend in employment and turnover and the technical status of machinery and plant, the proportion of turnover used for product innovations and improvements, and variables in respect of whether the establishment does its own research and development and/or market research. It also takes account of variables relating to the establishment structure, such as the proportions of white-collar workers, woman and skilled workers in the workforce and the proportion of employees with fixed-term contracts, the extent of pressure of competition, the staff turnover rate, capital intensity, and variables in respect of whether the establishment is independent and whether it is bound by collective agreements.

The empirical findings show that establishments are trying to cover their own need for skilled workers themselves in the long term, via vocational training. The wishes of those completing training correspond to this concern, since they want the training establishment to give them permanent jobs. However, if there is a short-term fall in profits or the business situation worsens, the establishment is unable to take on trainees on completion of training. The arrangements laid down in collective agreements for employment of trainees on completion of training are also important, but they often govern only fixed-term contracts and part-time employment.

2.3.4 Early recognition system for skills trends

Since 1998, Germany has had a network known as the early recognition system for skills trends (cf. Alex and Bau 1998, Kloas 1999 for a brief description), involving a total of nine institutes[1]. Not only does this network apply a very interesting mix of different methods, but it also draws on various data sources for analysis.

The activities of three of the institutes focus on surveys of establishments and enterprises. The Federal Institute for Vocational Training (BiBB – *Bundesinstitut für Berufsbildung*) has developed a system of some 1500 reference enterprises willing to take part in short-term representative surveys of topical training and continuing training issues. For example, they are asked questions about changes ensuing in the wake of product and process innovations and organisational changes, changes arising in skills, or changes in existing training arrangements required from the enterprises' point of view.

INFAS (*Institut für angewandte Sozialwissenschaft* – Institute of applied social science) studies the skills trend in the service sector, using as a tool regional case studies on the skills required by SMEs in particularly dynamic markets such as software development and sales, Internet service providers, advertising and specialised trade for information and communication technology.

The Institute of structural policy and economic research (ISW – *Institut für Sozialpolitik und Wirtschaftsförderung Halle-Leipzig e.V.*) investigates 'fashionable skills', in order to use them as a basis for early identification of skills requirements. Interviews are conducted with companies which play a trend-setting role in their sector or region or as regards their products, and therefore detect new skills requirements much earlier than their competitors. It is also important to identify skills requirements ensuing from the use of trendsetting technologies.

[1] The following institutes are involved in this network: *Bundesinstitut für Berufsbildung* (BiBB), [Federal Institute for Vocational Training], *Fraunhofer Institut für Arbeitswirtschaft und Organisation* [Fraunhofer Institute for the work-based economy and organisation], *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) [Institute of labour market and vocational research], INFAS (*Institut für angewandte Sozialwissenschaft* – Institute of applied social science), *Institut für Sozialpolitik und Wirtschaftsförderung Halle-Leipzig e.V.* (ISW) [Institute of social policy and promotion of economic development], *Infratest Burke Sozialforschung*, *Kuratorium der Deutschen Wirtschaft für Berufsbildung* [Board of trustees of German trade and industry for vocational training], and the *Wissenschaftszentrum Berlin* [Scientific Centre of Berlin].

722

2.3.5 Costs and benefits of in-company vocational training

The Federal Institute for Vocational Training (BiBB) carried out a series of company surveys to identify the costs and benefits of in-company vocational training (cf. Bardeleben et al. 1995, 1997; Kau 1994)[2]. These were supplemented by case studies. It proved to be easier to identify the costs of vocational training than the benefits. The companies were also asked the reasons why they trained their skilled workers themselves instead of recruiting them externally from the labour market. The argument put forward was that skilled workers are only available by means of vocational training, since they are not available on the external labour market. Within the framework of the company's own vocational training, it is possible to identify the employees with the best skills and knowledge. In-company vocational training increases loyalty to the company and thus also reduces the staff turnover rate.

2.4 The trend in in-company continuing training

2.4.1 Overview

This section summarises empirical studies with differing structures on in-company continuing training, based on enterprise and company data.[3] It begins with German/British studies from the 1980s, the studies of Holzer et al. (1993), Bartel (1994), Bishop (1994), Lynch and Black (1995), and Black and Lynch (1996, 1997), which are ambitious in their evaluation methods and use econometric methods to investigate the returns from continuing training. They assume a broad definition and take these as proxies for the returns from continuing training.

The section goes on to describe the studies of Gerlach and Jirjahn (1998) and Düll and Bellmann (1998, 1999), which also use econometric methods to investigate in-company continuing training provision and continuing training intensity – including considering men and women and differently skilled employees separately. Lastly, it presents special surveys on the subject of in-company continuing training by the institute of German trade and industry [*Institut der deutschen Wirtschaft*] (cf. Weiß 1990, 1994, 1997), Eurostat (cf.European Commission 1998a), and the American Society for Training and Development (ASTD) (cf. Bassi and McMurrer 1998, 1999; Bassi and Van Buren 1999a, 1999b).

2.4.2 Studies on the returns from in-company continuing training

Prais (1987), Prais and Wagner (1988), Prais et al. (1989), and Steedman and Wagner (1987, 1989) investigated the effects on productivity of various vocational training systems in a whole series of publications based on company data from Japan, the UK and Germany. They attributed the higher level of productivity in Germany to better-skilled workers, owing to a better vocational training system and to the work organisation, while taking account of differences in real capital.

On the basis of a survey of 171/250 companies in the manufacturing sector in the US State of Michigan, Holzer et al. (1993) investigated whether allocation of training subsidies has a positive effect on the company's productivity. The reject rate was used as the figure for measuring productivity. A comparison of the trend in companies which had received a training subsidy with that in companies whose applications were rejected shows that the training subsidy reduces the reject rate by 7%.

Lynch and Black (1995) and Black and Lynch (1996, 1997) carried out cross-sectional evaluations based on the Workforce National Employers Survey (NES) of the National Center on Educational Quality of the Workforce, a telephone survey of 2,945 com-

[2] In Cedefop's first report on vocational training research in Europe (Tessaring 1998), the BiBB's company surveys on the costs and benefits of in-company vocational training are covered in Part 2, Chapter 3.3.

[3] In Cedefop's first report on vocational training research in Europe (Tessaring 1998), this subject is discussed in Part 3, Chapter 4.4.

panies, and longitudinal evaluations based on a database generated via interplay between the NES and the Longitudinal Research Database of the US Bureau of Census. In the cross-sectional analyses, although not in the longitudinal analyses, they established that productivity was influenced by the proportion of participants in continuing training. They put this finding down to relatively poor recording of in-company continuing training. Interestingly, their study shows that organisational change has a significant effect. This needs to be examined further. On the basis of a comparable survey of 654 (1993) and 215 (1997) companies in Ireland, Barrett and O'Connell (1999) were able to ask very specific questions about enterprise-specific and general continuing training. They were able to establish that general, but not enterprise-specific, accumulation of human capital had a positive and significant effect. These studies are closely aligned with the increasingly important evaluation studies in the field of publicly funded continuing training.

Supplementing the questions also asked in the other surveys, in the data records used in the study of Frazis et al. (1998), companies were asked for more precise information on training and continuing training, pay levels and productivity in relation to two employees selected at random. This procedure is intended to reduce the problems arising from the great heterogeneity of the employees in an individual company. The most important finding is the greater involvement of larger enterprises in in-company continuing training and the stronger fostering of skilled employees.

Action-oriented approaches can be regarded as an alternative to the above approaches, which sometimes involve very sophisticated econometrics. The question also arises of whether a partnership is possible between companies and scientists in evaluating continuing training measures, also in the sense of monitoring training. The way in which this could work and the conditions that would need to be met are also discussed by Büchter (1999), Krekel and Beicht (1998) and Barrett et al. (1998, p.36).

2.4.3 Determinants of in-company continuing training

Gerlach and Jirjahn (1998) research the question of the fundamental factors influencing in-company continuing training on the basis of a panel data record generated in 1993, 1994 and 1995 covering 1,022 (1993), 849 (1994) and 721 (1995) manufacturing companies in Lower Saxony. The authors show that the factors promoting in-company continuing training activities include the skills structure of the workforce, increasing enterprise size, integration with other enterprises, modern work organisation, employee participation, performance incentives within the enterprise, the existence of a works council, and a company strategy based on research and development.

The growing number of enterprises with continuing training in line with the proportion of graduates and skilled workers in the workforce is seen by the authors as evidence of a business calculation leading to greater willingness to invest in the human capital of workers from whom returns can be expected. There appears to be little likelihood that enterprises will make a greater investment in continuing training for employees with skills deficits and hence indirectly improve their labour market prospects. Against the background of this finding, one also has to take a sceptical view of the willingness of enterprises to take on the long-term unemployed, even on a trial basis, as long as they can call on jobseekers lacking the stigma of a lengthy break in employment.

Following on from the study by Gerlach and Jirjahn (1998), the IAB also carried out research into company-subsidised continuing training, adopting a similar approach. The authors take their basic data from the information in the 1997 IAB establishment panel survey, which focused on in-company continuing training. Düll and Bellmann (1998) research the determinants both of in-company continuing training provision and of the intensity of continuing training in establishments. An enterprise is subsidising continuing training if it has financed a continuing training measure for at least one employee in the first

six months of the survey year, by bearing costs or releasing employees for participation in measures. The intensity of the establishment's use of continuing training is given by the proportion of participants in continuing training in the establishment's overall workforce[1].

The descriptive evaluations presented clearly show a heterogeneous picture for continuing training activities in establishments. An average of four in ten establishments in both East and West Germany undertook continuing training activities in the first six months of 1997. While in the smallest establishments (up to nine employees), only three in ten establishments offer any continuing training measures at all, in enterprises with up to 49 employees the figure rises to more than 50%. Virtually all establishments with 1,000 or more employees implement continuing training measures. The increasing readiness of establishments to offer continuing training as their size increases applies equally to establishments in the old and new *Länder*. A similarly differentiated picture emerges if establishments are classified by sector. Skills training measures for employees are most frequently implemented by enterprises in the following sectors: mining/energy and water supply, banking and insurance, the health sector, education/publishing and the public sector (local authorities/social security system). They are least often implemented by establishments in the agriculture sector and in the hotel and restaurant industry and the cleaning sector. This again applies equally to West and East Germany. Taken together, these findings show that there are considerable variations in continuing training provision according to sector and establishment size.

In multi-variant analyses, the most important factors are the skills structure of the workforce, the proportion of industrial workers, the proportion of trainees, investment in modernisation in the form of EDP, and the proportion of employees working overtime. These are the key factors determining both funding and the extent of the continuing training options offered by the establishment, i.e. the intensity of continuing training in the establishment. Thus the authors demonstrate that establishment decisions on promoting continuing training are linked in particular to technical modernisation and a skills bottleneck which cannot be resolved by taking on new staff.

In another study, Düll and Bellmann (1999) move beyond their original questions in order to determine the likelihood of continuing training for a skills group on the basis of the proportion of participants in continuing training from this group in all employees with this level of skills.

In the old *Länder*, the likelihood that these employees will participate in in-company continuing training varies according to their level of skills: skilled workers are most likely to receive continuing training, and unskilled and semi-skilled workers are the least likely. This applies to both the manufacturing sector and the private service sector. In the new *Länder*, the likelihood of continuing training essentially follows the same pattern, but in a comparison of different establishment sizes, the intensity of continuing training of skilled workers is higher in smaller establishments, while on the other hand it is higher for unskilled and semi-skilled workers in large establishments. In in-company continuing training, selection can be linked to the corporate framework conditions and to the application of specific staff deployment and work organisation concepts. It may be supposed that enterprises with their own personnel management system are more likely to implement systematic personnel work in the form of continuous in-service and continuing training, while establishments with no separation of functions of this kind are more likely to tend to make adhoc adjustments in line with current needs.

The authors also offer some evidence of the relationship between training and continuing training within establishments. The higher

[1] To achieve this, the details of cases of participation had to be translated into numbers of people. The methodological approach is described by Düll and Bellmann (1998, pp. 223f.). The time of commencement of continuing training measures can be determined on the basis of individual questionnaires on the one hand or, on the other, by recording continuing training costs in the CVTS survey (cf. OECD 1999, pp. 135ff.).

Box 2: Company surveys of the Institute of German trade and industry, Cologne

Written survey 1987, 1992, 1996, mainly covering companies with continuing training activities (1996: 98%)

Largely unchanged questionnaire

Scope of survey: 1,369 companies (1996)

Topics: types of continuing training events, duration, participants, costs

Sources: Weiß (1997).

the proportion of trainees in the establishment, the more likely skilled workers are to participate in in-company continuing training. In large enterprises, unskilled and semi-skilled workers also tend to be included in in-company continuing training. As the establishment size falls, however, in-company continuing training activities decrease. While large enterprises tend to have a strategy of supplementing knowledge acquired in vocational training with job-specific special knowledge in additional continuing training stages, in SMEs 'dual' training strategies of this kind appear to founder owing to the question of costs. The findings available suggest that large establishments implement a complementary strategy in relation to vocational training and continuing training, in which job-related continuing training supplements the vocational training of junior staff. Owing to the human and financial resources required, smaller establishments do not implement systematic continuing training of their employees. Here, initial vocational training is the only pillar of the efforts made to impart vocational skills. Responsibility for continuing training lies with employees themselves (although in some cases networks of SMEs arrange continuing training, or there are linked systems).

2.4.4 Continuing training surveys by the Institute of German trade and industry

The distinguishing feature of the written company survey implemented by the Institute of German trade and industry in West and East Germany (cf. Box 2) is the fact that it uses a largely unchanged questionnaire, to make time-based comparisons possible. Questions were asked about the following:

- the number of participants and the amount of time involved for them;
- the range of in-company continuing training activities (on the job learning, self-regulated learning, internal/external lectures, internal/external information events, retraining measures);
- the timing of continuing training;
- the level of expenditure per employee;
- developments in continuing training;
- the problems involved in releasing employees, and;
- trends in the regulation of continuing training.

It can be seen that enterprises prefer shorter events, organised in-house. In the author's view, it all amounts to organising continuing training in a time-saving and just-in-time manner (cf. Weiß 1997, p.9). The breakthrough with regard to the 'new' media that keeps being signalled has not yet come about. A look at future trends shows the greatest growth taking place in on the job learning and self-regulated learning. Two thirds of enterprises see a need to intensify monitoring of success, and almost as many want to improve the cost-effectiveness of continuing training (cf. Weiß 1997).

2.4.5 Eurostat (Statistical Office of the European Communities) Continuing Vocational Training Survey (CVTS)

In the years from 1991 to 1994, the European Commission addressed itself to companies in the private sector in the individual Member States with the FORCE action programme

(*Formation continue en Europe*), in order to support companies' efforts in the field of continuing vocational training. Interviews were carried out with 50000 representatives of companies with 10 or more employees. However, important sectors of the economy like agriculture, education and health care and the civil service were not included in the survey. In the context of this action programme, surveys on continuing vocational training were carried out in 12 Member States with the aim of acquiring data facilitating a comparison of the quality and quantity of actual continuing training activities in companies in the individual Member States.

In Germany, a two-stage survey concept was developed, consisting of a preliminary survey and a main survey. The main purpose of the preliminary survey was to obtain initial findings on continuing vocational training provision in companies. In the main survey which followed, these findings were consolidated and supplemented by further content. This stage of the survey covered all companies that had responded in the preliminary survey and had not expressly indicated that they did not wish to participate in the main survey. This was designed to ensure that it was not only companies active in continuing training that participated in the survey.

Selected findings were published by the European Commission (1998a) and the European Commission, Eurostat and Cedefop (1997, 1999, forthcoming)[5]. The CVTS contains international comparative data on

- the number of companies offering continuing vocational training by size and sector of the economy;
- the number of participants in continuing training/external courses, in-house courses (continuing training on the job), participation in lectures, specialist meetings, trade fair events, job rotation and self-regulated learning.

In addition,

- in in-house and external courses, participants are broken down according to sex, occupational activity (managers and scientists, engineers, office and sales staff and blue-collar workers), sector of the economy, duration of course, content of continuing training, type of supplier and costs (including in relation to overall labour costs);
- the time spent on participation in courses and the continuing training intensity are measured in relation to working hours and the number of participants.

For countries which provided Eurostat with micro-data records, i.e. all countries except Germany and the Netherlands[6],

- the assessment of companies' future skills requirements was analysed;
- the participation of certain groups in continuing training events was also described;
- the trend in forms of continuing training was assessed; and
- the reasons why some enterprises implemented no continuing training measures were analysed.

Apart from the fact that in 1994 there were (still) some differences in the data collection methods used by the countries concerned (cf. European Commission 1998a, pp. 12f.), the CVTS offers an extremely valuable potential for analysis. Above all, country-specific differences in the willingness of companies to offer employees skills training and in the intensity of continuing training can be investigated. At the same time, differences between the countries as regards sector and enterprise size structures can also be included, as can differences in types of supplier. It would also be interesting to indicate lines of development, although the topicality and relevance of the findings are impaired by delays in provision.

[5] In Cedefop's first report on vocational training research in Europe (Tessaring 1998), the Continuing Vocational Training Survey (CVTS) is discussed in Part 3, Chapter 4.4.

[6] The corresponding findings for Germany can be found in Schmidt (1995) and Grünewald and Moraal (1996).

Since the survey and hence also the questionnaire are specifically tailored to the field of in-company continuing training, however, it is not possible to take account of important company determinants of willingness to provide continuing training and continuing training intensity, such as investment activity, the company's technical status and the existence of a works council, as included by Düll and Bellmann (1998, 1999). Admittedly the works council is not involved in the everyday life of the enterprise, but only in the event of major rationalisation, as shown in the study by Sadowski and Pull (1997).

2.4.6 Benchmarking by the American Society for Training and Development (ASTD)

Since 1997, the American Society for Training and Development (ASTD) has carried out an annual written survey of member companies on a voluntary basis[7]. Corporate investment in training and continuing training is surveyed in the first part, and the returns in the second part. In return for answering the questions asked, companies can participate in ASTD's Benchmarking Service. Evaluations based on the data have been published in individual publications by Bassi and McMurrer (1998, 1999) and Bassi and Van Buren (1999a, 1999b). In 1998, 1220 companies took part, more than one third of which had their headquarters outside the USA.

The companies were of all sizes and came from all sectors of the economy. The questions related to

- expenditure on training and continuing training;
- the proportion of participants in continuing training measures;
- the use of external continuing training providers;
- the use of modern learning technologies;
- the significance of training in the field of technical knowledge and skills; and
- the introduction of innovative forms of training, work and remuneration.

The success of and return on investment in training and continuing training was evaluated by creating sub-samples and comparative groups. For example, Bassi and McMurrer (1998, 1999) compared companies whose per capita investment in training and continuing training was above the mean sum for all companies with those below the mean, firstly in terms of value added per employee, secondly as regards gross returns per employee, and thirdly as regards the relationship between market value and book value. More favourable findings are obtained for companies investing relatively more strongly in training and continuing training. It should, however, be noted that it was only possible to include 40companies in these analyses, since in some cases reference had to be made to published data in the public domain.

The fact that small numbers of companies took part in both surveys considerably limits the meaningfulness of the studies. There are procedures for correcting possible distortions in selection, but with very small samples they are of very limited use (cf. Huselid and Becker 1996).

Bassi and Van Buren (1999a) report on the findings of an analysis comparing 55 companies selected, with the aid of a cluster analysis, as leading edge companies with the remaining companies. The same authors have also compared the leading edge companies and all companies participating in benchmarking with regard to expenditure on training and continuing training and the returns achieved. One criticism must be made, namely that only 85 of 754 companies in the 'other companies' group surveyed in 1998 were able to provide details in respect of the same company unit as for 1997. Interestingly, the empirical results obtained clearly supported a positive connection between training and continuing training on the one hand and company operating efficiency on the other. However, the association cannot necessarily be interpreted as a causal one, since more efficient companies also have

[7] The model surveys on the subject of in-company continuing training by the US Bureau of Labor Statistics will simply be mentioned here (cf. Frazis et al. 1995, 1998).

723

more financial resources available for training and continuing training than do less successful companies. In other words, the direction of the association cannot be derived from the correlations identified.

In addition, there was also a positive association with the introduction of innovative forms of training, work and remuneration. In this respect, this finding confirms research by Kling (1995) and Ichniowski et al. (1997). Admittedly the latter obtained, on the basis of only a small panel survey of 26 steelworks in the USA, the finding that utilisation of individual personnel policy measures has a lesser effect than a combined approach. OECD (1999) reviews similar studies.

2.5 Matched employer-employee data records

Willis (1986, p.598), in his contribution to the Handbook of Labor Economics, indicated that the development of matched employer-employee data records was crucial to the progress of research in the fields of pay structure theory and human capital theory.

In their contribution to the new Handbook of Labor Economics, Abowd and Kramarz (1999a) cite some 100 studies from 15 countries, most of which have been produced only in the past five years, many as yet only in the form of discussion papers. Thus this is a research field that is developing very fast.

Provisional estimates of the future trend in the number of applicants for training places in the dual system are confronted by the problem that applicants for training places take account of the trend in training place provision. Fewer people apply for training places when there is a shortage of them than at times when there is a glut. In this respect, extrapolation of rates of transition between different class stages, types of school or education systems (general education versus vocational training) is dependent on provision of vocational training places (cf. Behringer and Ulrich 1997).

In-company training rates and rates of employment of successful trainees, as well as the intensity of in-company continuing training, continue to be determined not only by the structural characteristics of companies, but also by the range of vocational activities in the enterprise and changes in this. Conversely, an analysis of individual career paths, e.g. based on employee surveys, should also, of course, include factors relating to enterprise structure.

For studies of this kind, it is necessary to develop data records in which employers and employees are matched. As far as I know, however, no research of this kind is as yet available on the subjects of company flexibility and in-company training and continuing training, as covered in sections 2.2, 2.3 and 2.4. To date, the only studies available are in the field of pay structure and labour market demand. These will be discussed below.

A supplementary questionnaire in the French 1987 employee survey contained detailed questions on the use of new technologies. Kramarz (1994) and Entorf and Kramarz (1997, 1998) matched this data with the company data available for 1978-1987. In the context of a multi-variant approach, the authors examined the question of whether employees using new technologies earn better because they have better knowledge and skills than other employees or because new technologies increase productivity. The authors come to the conclusion that technologies based on the use of new information technologies have a relatively minor direct effect. Instead, these technologies are used by better-qualified employees, who also become more productive when they have acquired experience with these new technologies. Goux and Maurin (1997) also matched data from an employee survey and a company survey, in order to examine participation in in-company continuing training and the effects of continuing training on individual incomes and dismissal patterns. Troske (1999) and Bayard and Troske (1999) use similarly structured data records from the US Bureau of Census and conclude that large enterprises are in a better position to recruit skilled employees, and can organise them into teams and use them in combination with a high-quality capital stock. Schone (1999) uses Norwegian data to analyse the effect of continuing training measures on pay.

Bellmann et al. (1999) examined the flexibility of the skills structure on the basis of matched data records from the IAB establishment panel and the employment statistics of the Federal Institute for Employment. The employee statistics contain, inter alia, individual details of the pay subject to social security contributions of employees liable to pay such contributions (cf. Bender et al. 1996). On this basis, it was possible to estimate a translog cost system for six skills groups (blue- and white-collar workers each divided into unskilled/semi-skilled, skilled and highly skilled employees) in the manufacturing sector in West Germany in 1995. The substitution options ensuing from the company cost function for groups with different skills were examined. The substitution relationships identified within the individual blue-collar groups are very similar to those within the individual white-collar groups: skilled – and, to a lesser extent, highly skilled – employees prove to be substitutes for unskilled/semi-skilled employees. This finding could go at least some way towards explaining the increase in unemployment among the unskilled and semi-skilled.

At this point, mention should be made of the labour market supply and demand panels drawn up at two-yearly intervals since 1993 by the Dutch *Organisatie voor Strategisch Arbeidsmarktonderzoek* (OSA – Organisation for strategic labour market research) (cf. Allaart 1996), and of the possibility that arises, with very large data records of individuals (e.g. social security data), of aggregating the resulting personal information under the relevant enterprise number. Another good example of this is the study by Laaksonen and Vainiomäki (1997). This offers further opportunities for combining supply- and demand-side data. However, to date these have not been applied to vocational training research issues. Haltiwanger (1998) regards the possibility of surveying, in enterprise surveys, not only representatives and enterprise management, but also individual employees, as a critical one, because it involves a selection problem. The studies by Frazis et al. (1998) and Krebs et al. (1998) constitute examples of such a procedure. In the study by Frazis et al., two selected employees per enterprise were surveyed, and in that by Krebs et al., six or seven, depending on the company size.

Another advantage of matched employer-employee data records lies in the associated opportunity to carry out consistency checks (cf. Hamermesh 1999).

Hildreth and Pudney (1999) and Abowd and Kramarz (1999b) review the econometric problems arising in the context of analysis of matched employer-employee data records and the solution to them.

2.6 Establishments or enterprises as survey units

An important question for empirical analyses is that of the suitable survey unit. In official statistics, the 'establishment' is understood as being the local unit in which a company's activities, i.e. the production of goods or services, are actually carried out. The 'establishment' survey concept is also preferred to the enterprise level in other panel studies in the Federal Republic of Germany (the Hannover Firm panel and the NIFA panel in the mechanical engineering sector) (cf. Brand and Carstensen 1995, pp. 2f.; Hauptmanns and Ostendorf 1994, pp. 3f.), even if, in the context of individual questions on labour market policy or company policy, individual players are surveyed who are not themselves among those responsible for decision-making at company level. The 'establishment' is normally the suitable survey unit for the questions to the IAB establishment panel, as the unit in which employment and personnel policy and their determinants manifest themselves in the form of the corresponding business sizes or personnel structures. In the context of company reorganisations and organisational change, as discussed in section 2.2 of this article, a link is apparent between enterprises employment and personnel policy and organisation of local performance, i.e. the establishments. At the same time, business statistics such as turnover, working hours, wages and salaries and others are directly available for establishments. A similar argument can be put forward in the case of vocational training research. Interestingly, it was also apparent in the context of the 1993 CVTS

Box 3: Selected enterprise and company surveys with information on vocational training

Country	Title	Subject	Organisation	Year(s)	Publications
EU	Continuing Vocational Training Survey (CVTS)	Continuing training	Eurostat	1993	Cedefop 1997, 1999
	Price Waterhouse Cranfield Study	Management practice			Brewster et al. 1994
USA	National Employer Survey (NES)		National Center on the Educational Quality		Lynch/Black 1995
	Longitudinal Research Database		US Bureau of Census		Troske 1999
	BLS Survey of Employer Provided Training	Continuing training	US Bureau of Labor Statistics		Frazis et al. 1995
	ASTD State of the Industry Report	Continuing training Management practice	American Society for Training and Development	since 1997	Bassi/McMurrer 1998, 1999 Troske 1999
D	IAB enterprise panel	Personnel and employment policy	Institute for labour market and vocational research (IAB) of the Federal Institute for Employment	since 1993	Bellmann et al. 1996, 1999
	Hanover firm panel	Personnel and employment policy	University of Hanover	1993-1995	Brand/ Carstensen 1995
	Early recognition system, skills trend	Vocational training	Nine institutes	since 1998	Alex/Bau 1998
	Costs and benefits of in-company vocational training	Vocational training	Federal Institute for Vocational Training	since 1994	von Bardeleben et al. 1995, 1997
	Continuing training surveys	Continuing training	Institute of German trade and industry	1987, 1992, 1996	Weiß 1997

survey that in-company continuing training data was often not available at enterprise level and therefore had to be collected in a decentralised way (cf. Federal Statistical Office 1996, p.4). However, certain information on business activity such as the ownership, funding and marketing structures can be collected only at enterprise level (cf. Licht and Stahl 1995)[8], so that it is likely to be extremely difficult to determine the influence they exert on vocational training variables, if this information is not available (in full) at establishment level.

2.7 Interim summary

In the field of vocational training research, many topics can really only be adequately covered by means of personal, enterprise and establishment data. Box 3 gives another summary of the most important enterprise and establishment surveys from various countries. The European Commission (1998b) reviews

[8] Changes occurring here may also be important influencing factors, e.g. for business success variables, as demonstrated by McGuckin and Nguyen (1999).

Table 1: Selected results of the IAB establishment panel related to training and continuing training (proportions in %)

	West Germany	East Germany
Establishments entitled to train	58	49
Establishments entitled to train which also actually do so	47	51
Training companies (= training companies ratio)	27	29
Trainees as a percentage of all employees (= training ratio)	4.3	6.0
Trainees employed by the training establishment on completion of training	58	46
Establishments promoting continuing training (= continuing training company ratio)	37	39
Employees participating in continuing training measures	18	22
Women participating in continuing training measures	17	25
Unskilled and semi-skilled workers participating in continuing training measures	7	9
Skilled workers participating in continuing training measures	18	20
Blue-collar workers and unskilled white-collar workers participating in continuing training measures	15	24
Skilled blue- and white-collar workers participating in continuing training measures	29	36

Note: The data on in-company vocational training relates to 1998.
The data on in-company continuing training relates to the first six months of 1997.
Source: IAB establishment panel 1993.

other research, e.g. on company demography. This report draws attention to the potential of data from establishment and enterprise surveys for analysis.

Additional skills requirements arise in the context of establishment measures to increase flexibility. Organisational changes such as teamwork, flattening of hierarchies, the downward transfer of responsibility, departmental mergers, the institution of units which determine their own costs and results, and the introduction of just-in-time production tend to increase demand for employees with vocational training qualifications. The slimming down of large companies leads to hiving off of service areas and the emergence of service establishments close to the means of production. The effects of this trend on requirements as regards capacities, skills and competences in establishments are also on the research agenda. Here, the key concern is to obtain insight into the structure of the organisation as a whole, its human resources and strategy, and not simply the utilisation and deployment of employees.

The second subject covered in this section was in-company vocational training and employment of trainees on completion of training, in the training company. Research into participation in in-company training was presented, with participation being measured, for instance, as the number of trainees in relation to the number of employees liable for social security contributions and to the reasons for non-participation in in-company vocational training, by means of the IAB establishment panel (cf. Table 1 for a summary of selected results). Differences as regards specific enterprise sizes and sectors were also discussed, as were development trends. Studies on employment of trainees on completion of training show that establishments implementing long-term planning and investment employ more trainees, relatively speaking, but that current problems in the establishment definitely exert an influence. The section also mentioned the 'early recognition system for skills trends' network, in which a total of nine institutes in Germany are involved, and in which a very interesting mix of different methods is employed. Since 1995, the Federal

Institute for Vocational Training has been researching the costs and benefits of in-company vocational training.

The third area covered was the development trends discernible in the field of in-company continuing training on the basis of establishment and enterprise data. From the methodological point of view, studies examining the returns and above all the effect of continuing training measures on productivity, using panel-based analytical methods and establishment and enterprise data, are comparatively ambitious. These studies have much in common with studies evaluating publicly funded continuing training measures, which my report did not cover.

Other studies examine in-company continuing training provision and the intensity of in-company continuing training, including for individual skills groups. On the basis of data from the IAB establishment panel (again, cf. Table 1 for a summary of selected results), it is apparent that skilled employees are most likely to be given opportunities for continuing training, and unskilled and semi-skilled employees are the least likely. The Continuing Vocational Training Survey (CVTS) carried out by Eurostat in the years 1991-1994 is probably the largest investigation ever carried out in the field of vocational training research, in terms of data collection. Questions are asked on the form of continuing training offered, the group of people involved, the time involved for participants, future skills requirements and the estimated development of forms of continuing training. Enterprises not offering their employees continuing training are asked about their reasons for this. Another strength of these data records is the opportunity to carry out international comparisons. Improvements are required in the area of coordination of the questionnaire in the countries involved (as yet a standardised questionnaire has not been used), in the surveying of important determinants of decisions on continuing training, and in the area of the time span between data collection and publication of the results.

In addition to this most important research in the field of in-company continuing training, I have covered the research of the Institute of German trade and industry, since this facilitates time-based comparisons. Since 1997, the American Society for Training and Development (ASTD) has been carrying out surveys involving company-related questions as well as continuing training questions. The development of matched employer-employee data records is also likely to continue to offer interesting prospects for the further development of vocational training research. However, as yet there has been no research on this basis in the field of training and continuing training. Lastly, the question of the suitable survey unit was addressed. In vocational training topics, surveys of establishments offer the advantage that at this level the necessary data is directly available.

3. Advantages and disadvantages of longitudinal as opposed to cross-sectional studies

3.1 Overview

The previous section clearly showed the importance and potential of broad-based empirical studies using establishment and enterprise data for many areas of vocational training and skills research. This section will bring out the advantages, but also the disadvantages, of longitudinal research as opposed to cross-sectional research. In this context, a distinction must be made between advantages and disadvantages in respect of data collection and in respect of evaluation of data or interpretation of the results.

With the exception of the IAB establishment panel, the previous section described only surveys designed as cross-sectional studies. It must also be mentioned that the longitudinal data records cited were not usually evaluated as such. In other words, to date in most cases only the data from individual survey waves has been evaluated, and the longitudinal information has not yet been used. Thus, as yet, not all the advantages offered by longitudinal data records have been utilised, but only the technical advantages as regards the survey.

The structure of the IAB establishment panel can be used as an example demonstrating the specific advantages of repeated surveying of the same establishment unit, as well as the problems, in comparison with a survey of different establishment units in different years. The *sampling*, the *fieldwork* and then the *questionnaire design* will be discussed.

3.2 Sampling

In the IAB establishment panel, sampling is done in accordance with the principles of the so-called optimum sample (Pflanzagl 1978, pp. 162ff.), divided into 16 sectors of the economy and ten establishment size classes. Table 2 shows the enterprise size classes, the number of establishments surveyed, the selection probabilities and the response rates in the individual establishment size classes.

It is apparent that the number of establishments responding and the probability of selection increase steadily with the establishment size, measured as the number of employees (e.g. in class 1, up to 4 employees, probability of selection is 0.1%, whereas in the class with 5,000 or more employees, this rises to 91.27%). In the lower classes, the margin between the sizes of the smallest and largest establishment is much smaller than in the higher classes. Hence the establishments in the lower classes are much less heterogeneous than those in the higher classes. In order to compensate for these differences in heterogeneity, an effort is made to survey a larger number of establishments in the higher classes than in the lower classes. The number of cases suitable for evaluation is based on the establishment response rate in relation to specific establishment sizes and sectors of the economy. While this concludes the sampling procedure for the first survey wave, as from the second wave an additional sample is drawn from newly created establishments. This ensures that the data record constitutes a representative cross-section, via appropriate projections. Without the additional sample, establishments founded or employing, for the first time, workers liable for social security contributions after the first sampling procedure (also known as the basic sample)[9] would have no opportunity to be included in the sample.

This sampling procedure gives rise to two important aspects as regards assessing the advantages and disadvantages of longitudinal as opposed to cross-sectional surveys of establishments. Firstly, with larger establishments the probability of selection is so high that in the case of most establishments with over 1,000 employees[10] it is de facto impossible to abstain from repeated surveying of the same enterprise unit, because almost all the establishments actually available for survey in the higher establishment size classes have already been covered in the basic survey. For according to Table 2, the probability of selection is 87.65% in enterprises with between 1,000 and 5,000 employees and as high as 91.27% in enterprises with over 5,000 employees. In West Germany, just under one quarter of the establishments covered by the sampling belong to these two size classes.

Secondly, with newly founded establishments the probability of survival is much lower than it is with long-established ones. Consequently panel mortality is higher for these establishments than for long-established ones, even if enterprise representatives in the two groups are equally willing to respond. Therefore, in the IAB establishment panel, a disproportionately large number of newly founded establishments are included in the sample. With a cross-sectional survey, there would be no need for this so-called over-sampling, which takes account of future panel mortality owing to possible establishment closures.

[9] Unlike other enterprise surveys, such as the Hanover firm panel (cf. Brand and Carstensen 1995) and Eurostat's Continuing Vocational Training Survey (CVTS) (cf. section 2.4.5 of this report), the IAB establishment panel survey is not restricted to individual sectors of the economy or establishment sizes. The only condition is that the enterprise should employ at least one worker liable for social security contributions (in the private households sector, at least five workers liable for social security contributions must be employed).

[10] In the CVTS, as from a company size of 1,000 employees every third company is surveyed (cf. European Commission 1998a, p. 12).

Table 2: Numbers of enterprises surveyed and responding, probability of selection by establishment size in West Germany in the IAB establishment panel

Number of employees[1]	Number of establishments surveyed[2]	Probability of selection	Number of establishments responding	Response rate
1 to 4	1,072	0.0011	625	0.67
5 to 9	431	0.0015	250	0.64
10 to 19	466	0.0030	299	0.71
20 to 49	862	0.0089	542	0.70
50 to 99	535	0.0153	350	0.72
100 to 199	543	0.0304	376	0.77
200 to 499	923	0.0862	615	0.74
500 to 999	479	0.1504	304	0.71
1,000 to 4,999	1,497	0.8765	924	0.72
5,000 or more	115	0.9127	71	0.73
Total	6,923	0.0043	4,356	0.71

1) Total number of employees as at 30.6.1992
2) This represents the uncorrected gross sample. For various reasons, approx. 800 establishments could not be included in the survey, e.g. because at the time of the survey they were no longer in existence.
Source: IAB establishment panel 1993.

3.3 Fieldwork

The IAB establishment panel imposes particularly stringent requirements as regards data quality. This can be assured firstly by the high-quality sample based on establishments' statistical data in respect of employees, which establishments with employees liable for social security contributions have a statutory obligation to notify, and secondly by a high response rate (60-70% of enterprises surveyed for the first time, 80% of enterprises in subsequent surveys). In addition, *Infratest Burke Sozialforschung* subjects interviewers' data to a relatively intensive process of checking for completeness, consistency and plausibility, including follow-up telephone calls to the establishments surveyed. With longitudinal surveys, previous values can also be taken into account in checking data.

In the long term, the personal contact between respondents and interviewers also has a positive effect on willingness to participate. As Table 3 shows, everywhere where it has been possible to use the same interviewer as in the previous year, the response rates are markedly higher than where there has been a change of interviewer.

3.4 Questionnaire design

In the IAB establishment panel, the questionnaire is designed using a modular approach (cf. Bellmann et al. 1999). In repeat surveys, the questionnaire can be shorter if certain details of establishments do not constantly change and questions about these are therefore asked only in the initial survey and at certain intervals. The various waves also focus on different aspects.

When the same establishment units are surveyed regularly, with an establishment panel as the instrument, extensive comparability of the questions asked in each wave is assured. Since the proportion of enterprises participating in the survey also depends on the length of the questionnaire, a modular questionnaire structure was selected in the IAB establishment panel. Hence the questions in certain parts of the questionnaire are asked only every two to three years.

3.5 Evaluation

The first advantage of longitudinal data as opposed to cross-sectional data is the possibility of taking into account the heterogene-

Table 3: Response rates, utilisation and use of interviewers (basis: establishment respondents from Wave 5 (1997), excluding refusals in advance for Wave 6 (1998))

	Response rate in Wave 6 (1998)	
	Same interviewer as previous year	Different interviewer
Overall	82.1%	70.0%
West	81.2%	68.2%
East	82.9%	71.3%

Source: IAB establishment panel.

ity of the establishments and the consideration of the relationship between cause and effect (cf. Baltagi 1995). More complex and hence more sophisticated behaviour models can be formulated on the basis of longitudinal data. Establishments' behaviour as regards adaptation can be investigated much better with longitudinal data than with cross-sectional data. There are also certain questions that can be analysed only by means of panel data. There is an increase in the number of cases and of degrees of freedom, a reduction in problems as regards multi-collinearity, and an increase in the efficiency of estimates of regression. Disadvantages are the greater significance of measuring errors and selectivity problems, including the panel mortality caused by various factors. These advantages and disadvantages of longitudinal data as opposed to cross-sectional data will be discussed in more detail below.

A regression model is specified by defining variables. Distorted results are obtained from the assessment of regression coefficients if influential variables are suppressed. This is a serious problem, to which a solution unfortunately cannot always be found, since influential variables often escape notice or at least are not included in the data records available. One of these is the individual heterogeneity of enterprises. However, when panel data is used, this is not a problem if its influence does not change over time and the regression model is formulated in terms of first differences, not size levels. The influence of this variable, which is unobserved but does not change over time, is 'cancelled' out by means of first differences. With longitudinal data, cause/effect relationships can be analysed, as information provided at different times is available and effects cannot precede causes[11].

Adjustments in line with new balances on the labour market are of great interest for economic policy, since different economic policy measures must be judged differently in terms of the time required for the intended aims to be achieved. The reason for delayed reactions is the costs arising when employee numbers change. These adjustment-related costs may extend over more than one time period (cf. Hamermesh 1993). Dynamic adjustment models therefore need to be evaluated. This can only be done by means of panel data.

Certain issues can be examined only via longitudinal data. These include the question of whether training companies simply do not train during individual time periods, or whether they make a lasting decision to institute their own in-company vocational training.

Thus it is easier to research developments over time on the basis of repeated surveys of the same business units than if different units are surveyed. In this way, it is easier to make a distinction between changes in the behaviour of the same business units and changes based on changes in the composition of the aggregate under consideration. For example, the decline in provision of training places in Germany is caused both by a display of cau-

[11] Nevertheless, foreseeable changes can be anticipated, which means that chains of causality can be identified to only a limited extent.

736

tion on the part of training companies and by the increasing importance of enterprises with no connection with training, which as yet, therefore, do not provide training, e.g. service centres, temping companies, young entrepreneurs or foreign companies. The latter are endeavouring to establish themselves on the market and are less concerned about their own possible future need for workers.

If the results of different survey waves can be evaluated in summarised form in longitudinal analyses, higher case figures ensue, so that the number of degrees of freedom increases. Thus at a given level of test statistics, it becomes easier to draw statistical conclusions. Admittedly it must be possible to pool the data records, but this is a property that can be tested for. Problems of multicollinearity are reduced, because the level of variance contained in the explanatory variables increases. This means that the results are more reliable. Measurement errors are generated by incorrect delimitations, inaccurate answers, or the efficiency of estimates and sampling errors. Incorrect information arises as a result of unclear questions, inaccurate memories (especially if questions are asked about events some time in the past), deliberate misinformation (e.g. prestige bias), information from incompetent persons, interviewer effects and processing errors (cf. Kalton, Kasprzyk and McMillen 1989).

The decision on continued participation in a survey may be dependent on the same factors whose influence on in-company training and continuing training is to be investigated, such as the answers to questions about business returns, the anticipated employment trend, the anticipated trend in in-company vocational training or the quest for staff. The ensuing selectivity represents a major problem for the modelling and interpretation of results. Kalton, Kasprzyk and McMillen (1989) examined several panels from the point of view of panel mortality and concluded that it increases from wave to wave – but at a decreasing rate. However, the research of Hartmann and Kohaut (1999) in the context of the IAB establishment panel showed that panel mortality has only a minimal influence on the results obtained.

3.6 Interim summary

To summarise, it can be stated that longitudinal surveys are more time-consuming and costly than cross-sectional surveys, but offer important advantages. This also applies, at least in part, to repeated cross-sectional surveys.

I have been able to use the example of the IAB establishment panel to show that there is no difference between longitudinal surveys and repeated cross-sectional surveys with regard to the selection group in the context of the larger establishments surveyed, because larger establishments were intended to be taken into account to a disproportionate extent in the sample. In the case of the IAB establishment panel, *Infratest Burke Sozialforschung*, which is responsible for collecting the data, subjects interviewers' data to a relatively intensive process of checking for completeness, consistency and plausibility. At the same time, owing to the longitudinal nature of the survey, previous values can be taken into account and follow-up telephone calls can be made to collect further information. In addition, the personal contact between interviewer and establishment is the most important precondition for high participation rates. In longitudinal surveys, the questionnaire can be designed using a modular approach. Therefore the questionnaire can be shorter, as in the case of certain details of establishments, which do not constantly change, questions only need to be asked in the initial survey and at certain intervals.

In the context of evaluation, the main advantages of longitudinal data as opposed to cross-sectional data lie in the possibility of taking into account the heterogeneity of establishments and the consideration of the relationship between cause and effect. More complex and hence more sophisticated behaviour models can be formulated on the basis of longitudinal data. Enterprises' behaviour as regards adaptation can be investigated much better with longitudinal data than with cross-sectional data. There are also certain topics that can be investigated only by means of panel data. However, statistical advantages are also offset by the selectivity problems occurring

in longitudinal research, including those caused by panel mortality.

4. Conclusions

The selected studies on company flexibility and in-company training and continuing training discussed have shown that in future establishment and company surveys will be an essential instrument for vocational training research. What do the ideal data records look like in this context? Similarly to the IAB establishment panel, questions should be asked about the intensity of in-company training and continuing training, as well as the skills structure and skills requirements.

A list of questions about various aspects of company personnel and employment policy must be asked, in order to cover influencing factors that are important from the point of view of vocational training research, e.g. factors influencing the intensity of in-company training and continuing training and skills development. The survey should be carried out annually on the basis of a panel, since this gives rise to major technical advantages as regards the survey, the questionnaire and evaluation. In addition, it would be productive to interview a representative group of employees in the companies participating in the survey and to build up matched employer-employee data records.

If questions of continuing training actually implemented or financed within the enterprise are also addressed, it would not be sufficient to use (only) data such as the social security data in the employee statistics of the Federal Institute for Employment in Germany. Admittedly the selection problem arising in a survey of workforce members would have to be solved. In this respect, administrative data offers advantages if it relates to the majority of employees in the enterprises covered. In this context, it would also be of great interest to include surveys of employee representatives at establishment level in the establishment and enterprise units surveyed (cf. the works council and staff council surveys carried out by the Institute of economic and social science (*Wirtschafts- und Sozialwissenschaftlichen Institut*, WSI) in Germany and the British Workplace and Industrial Relations Survey (WIRS). Last but not least, it is very important to resolve data protection problems, since in future both research into the demand for labour and vocational training research based on establishment and enterprise data will have greater weight only if the data collected can be evaluated not only by employees of the institutions collecting it, but also by other scientists (cf. Bender, Brand and Kohaut 1999).

In evaluating establishment and enterprise surveys, which I argue should be available in longitudinal form, the greatest potential lies in using panel econometric methods of analysis. It is necessary to include a number of questions on various aspects of company personnel and employment policy because when econometric procedures are used, the most important factors influencing in-company training and continuing training, for example, can be identified. In addition, the use of matched employer-employee data records has the advantage that supply-side influencing factors can be taken into account as well as demand-side factors. If matched employer-employee data records are built up on the basis of administrative data, no selection problem arises as regards surveying of employees, but fewer variables are available. However, the social security data in the employee statistics of the Federal Institute for Employment includes information on employees' qualifications, their occupations and their pay, in longitudinal form.

An important potential for analysis ensues if similar data records are generated in different countries, so that international comparisons are possible. Although institutions are of very great importance in vocational training, their positive or negative influence on vocational training cannot be determined in national studies alone, if they are national institutions. Ideally, data collection should be coordinated in the countries concerned, as in Eurostat's Continuing Vocational Training Survey (CVTS). The first steps in this direction have already been taken in the field of research into continuing training and company flexibility. As yet, however, little re-

738

search is available into questions of initial vocational training, skills requirements, recruitment and other important issues in vocational training research. Since it is likely to be at least very difficult to determine the factors influencing in-company training and continuing training, for example, in different countries, strict limits are set for the use of econometric methods. On the basis of a good register of establishments and enterprises, however, projected results for countries as a whole can be compared with one another.

5. Summary

Politicians, scientists and employers themselves have an increasing interest in reliable information on trends in labour market demand and companies' skills requirements. The main reasons for this are the persistently high level of unemployment and the associated under-utilisation of human resources, and reinforcement of the quality of locations via investment in human capital. However, in comparison with the data available on the supply side of the labour market, the data available on the demand side is inadequate. Hitherto various public bodies and research institutes have concentrated on surveying individuals. Company and enterprise data is systematically collected, but seldom with regard to employment and skills aspects and the variables determining these. In order to be able to analyse and possibly reduce the continuing problems in the context of the labour market and training, there is a need for reliable data on the company side of the labour market.

Many topics in the field of vocational training research can be adequately covered only by means of personal, establishment and enterprise data. This report has shown the potential which analysis of company and enterprise data offers in respect of three important subject areas.

Firstly, additional skills requirements arise in the context of enterprise measures to increase flexibility. Organisational changes such as teamwork, flattening of hierarchies, the downward transfer of responsibility, departmental mergers, the institution of units which calculate their own costs and results, and the introduction of just-in-time production tend to increase demand for employees with vocational training qualifications. The slimming down of large companies leads to hiving off of service areas and the emergence of service enterprises close to the means of production. The effects of these trends on requirements as regards capacities, skills and competences in enterprises are also on the research agenda. Here, the key concern is again to obtain insight into the structure of the organisation as a whole, its human resources and strategy, and not simply the utilisation and deployment of employees.

The second subject covered in this section was in-company vocational training and employment of trainees on completion of training, in the training enterprise. Research into participation in in-company training was reviewed, with participation being measured, for instance, as the number of trainees in relation to the number of employees liable for social security contributions, and to the reasons for non-participation in in-company vocational training. Differences as regards specific enterprise sizes and sectors were also discussed, as were development trends. Studies on employment of trainees on completion of training show that establishments implementing long-term planning and investment employ more trainees, relatively speaking, but that current problems in the establishment definitely exert an influence. This section also discussed the 'early recognition system for skills trends' network, in which a total of nine institutes in Germany are involved, and in which a very interesting mix of different methods is employed. Since 1995, the Federal Institute for Vocational Training has been researching the costs and benefits of in-company vocational training.

The third area covered was the development trends discernible in the field of in-company continuing training on the basis of establishment and enterprise data. From the methodological point of view, studies examining the returns and above all the effect of continuing training measures on productivity, using panel-based analytical methods and estab-

lishment and enterprise data, are comparatively ambitious. These studies are closely aligned with studies evaluating publicly funded continuing training measures, which my report did not cover.

A fundamentally different path is followed by approaches involving action-oriented evaluation, e.g. in the context of monitoring of continuing training. Other studies examine in-company continuing training provision and the intensity of in-company continuing training, including for individual skills groups. It is apparent from these that skilled employees are most likely to be given opportunities for continuing training and unskilled and semi-skilled employees are the least likely. The Continuing Vocational Training Survey (CVTS) carried out by Eurostat in the years 1991-1994 is probably the largest investigation ever carried out in the field of vocational training research, in terms of data collection. Questions are asked on the form of continuing training offered, the group of people involved, the time involved for participants, future skills requirements and the estimated development of forms of continuing training. Enterprises not offering their employees continuing training are asked about their reasons for this. Another strength of these data records is the opportunity to carry out international comparisons. Improvements are required in the area of coordination of the questionnaire in the countries involved (as yet a standardised questionnaire has not been used), in the surveying of important determinants of decisions on continuing training, and in the area of the time span between data collection and publication of the results.

In addition to this most important research in the field of in-company continuing training, I have covered the research of the Institute of German trade and industry, since this facilitates time-based comparisons. Since 1997, the American Society for Training and Development (ASTD) has been carrying out surveys involving company-related questions as well as continuing training questions. The development of matched employer-employee data records is also likely to continue to offer interesting prospects for the further development of vocational training research. However, as yet there has been no research on this basis in the field of training and continuing training. Lastly, the question of the suitable survey unit was addressed. In vocational training topics, surveys of enterprises offer the advantage that at this level the necessary data is directly available.

Longitudinal surveys are much more time-consuming and costly than cross-sectional surveys, but offer important advantages. I have been able to use the example of the IAB establishment panel to show that there are only partial differences between longitudinal surveys and repeated cross-sectional surveys with regard to the selection group in the context of the establishments surveyed, because larger establishments were designed to be taken into account to a disproportionate extent in the sample, and therefore virtually all of them have to be surveyed. In the case of the IAB establishment panel, *Infratest Burke Sozialforschung*, which is responsible for collecting the data, subjects interviewers' data to a relatively intensive process of checking for completeness, consistency and plausibility. At the same time, owing to the longitudinal nature of the survey, previous values can be taken into account and follow-up telephone calls can be made to collect further information. In addition, the personal contact between interviewer and establishment is the most important precondition for high participation rates. In longitudinal surveys, the questionnaire can be designed using a modular approach. Therefore the questionnaire can be shorter, as in the case of certain details of establishments, which do not constantly change, questions only need to be asked in the initial survey and at certain intervals.

In the context of evaluation, the main advantages of longitudinal data as opposed to cross-sectional data lie in the possibility of taking into account the heterogeneity of establishments and the consideration of the relationship between cause and effect. More complex and hence more sophisticated behaviour models can be formulated on the basis of longitudinal data. Establishments' behaviour as regards adaptation can be investigated much better with longitudinal data than with cross-sectional data. There are also certain topics

that can be investigated only by means of panel data. However, statistical advantages are also offset by the selectivity problems occurring in longitudinal research, including those caused by panel mortality.

Lastly, it is recommended that company and enterprise surveys be developed and evaluated, focusing on vocational training and continuing training. Similarly to the IAB establishment panel, questions should be asked about the intensity of in-company training and continuing training, as well as the skills structure and skills requirements. A list of questions about various aspects of company personnel and employment policy must be asked, in order to cover influencing factors that are important from the point of view of vocational training research, e.g. factors influencing the intensity of in-company training and continuing training and skills development. The survey should be carried out annually on the basis of a panel, since this gives rise to major technical advantages as regards the survey, the questionnaire and the evaluation. In addition, it would be productive to interview a representative group of employees in the companies participating in the survey and to build up matched employer-employee data records.

The greatest potential offered by establishment and enterprise surveys lies in using econometric analysis methods. It is necessary to include a number of questions on various aspects of company personnel and employment policy because when econometric procedures are used, the most important factors influencing in-company training and continuing training, for example, can be identified. In addition, the use of matched employer-employee data records has the advantage that supply-side influencing factors can be taken into account as well as demand-side factors.

An important potential for analysis ensues if similar data records are generated in different countries, so that international comparisons are possible. Although institutions are of very great importance in vocational training, their positive or negative influence on vocational training cannot be determined in national studies alone, if they are national institutions. Ideally, data collection should be coordinated in the countries concerned, as in Eurostat's Continuing Vocational Training Survey (CVTS). The first steps in this direction have already been taken in the field of research into continuing training and company flexibility. As yet, however, little research is available into questions of initial vocational training, skills requirements, recruitment and other important issues in vocational training research. Since it is likely to be at least very difficult to determine the factors influencing in-company training and continuing training, for example, in different countries, strict limits are set for the use of econometric methods. On the basis of a good register of establishments and enterprises, however, projected results for countries as a whole can be compared with one another.

Bibliography

Abowd J.M., Kramarz F., 1999a. The analysis of labor markets using matched employer employee data. *In:* Ashenfelter O., Card D., eds. *Handbook of Labor Economics* Vol3. Amsterdam: NorthHolland (forthcoming)

Abowd J.M., Kramarz F., 1999b. Econometric analyses of linked employer-employee data. *Labor Economics* 6, pp. 53-74

Alex L., Bau H., 1998. BiBB verstärkt seine Forschungsarbeiten zur Früherkennung des beruflichen Wandels. *Berufsbildung in Wissenschaft und Praxis* **25** (4), pp. 1-2

Alex L., Bau H., eds., 1999. *Wandel beruflicher Anforderungen. Der Beitrag des BiBB zum Aufbau eines Früherkennungssystems Qualifikationsentwicklung.* Bielefeld: Bertelsmann

Allaart P., 1996. *The OSA Labor supply and demand panels.* Groningen

Atkinson J., 1985. *Flexibility, uncertainty and manpower management,* Institute of Manpower Studies Report No. 89, London

Baltagi B.H., 1995. *Econometric analysis of panel data.* New York: Wiley

Bardeleben R., Beicht U., Feher K., 1995. Betrachtung des Nutzens betrieblicher Ausbildung. *In:* Beicht U., von Bardeleben R., Feher K., eds. *Betriebliche Kosten und Nutzen der Ausbildung. Ergebnisse aus Industrie, Handel und Handwerk.* Bielefeld: Bertelsmann

Bardeleben R., Beicht U., Feher K., 1997. *Was kostet die betriebliche Ausbildung? Fortschreibung der Ergebnisse 1991 auf dem Stand 1995.* Bundesinstitut für Berufsbildung, Bericht zur beruflichen Bildung, Vol210

Barrett A., Hövels B., den Boer P., Kraayvanger G., 1998. *Exploring the returns to continuing vocational training in enterprises: A review of research within and outside of the European Union.* Cedefop: Thessaloniki

Barrett A., O'Connell P.J., 1999. *Does training generally work? The returns to in-company training.* Discussion Paper of the Institute for the Study of Labor. Bonn

Bartel A. 1994. Productivity gains from the implementation of employee training programs. *Industrial Relations* 33, pp. 411-425

Bassi L.J., McMurrer D.P., 1999. Training investment can mean financial performance. *Global Connector,* pp. 1-2

Bassi L.J., McMurrer D.P., 1998. Training investment can mean financial performance. *Training and Development Magazine*

Bassi L.J., Van Buren M.E., 1999a. *The 1999 ASTD state of the industry report.* Alexandria, VA: The American Society for Training and Development

Bassi L.J., Van Buren M.E., 1999b. Sharpening the leading edge. *Training and Development Magazine,* pp. 2-10

Bayard K., Troske K.R., 1999. Examining the employer-size wage premium in the manufacturing, retail trade, and service industries using employer – employee matched data. *American Economic Review. Papers and Proceedings* **89** (2), pp. 99-103

Behringer F., Ulrich J.G., 1997. Die Angebotsabhängigkeit der Nachfrage nach Ausbildungsstellen als Problem bei der Vorausschätzung der zukünftigen Nachfrage. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* **30** (3), pp. 612-619

Bellmann L., 1997. Das IAB-Betriebspanel. *Sonderhefte des Allgemeinen Statistischen Archivs* 80, pp. 169-182

Bellmann L., 1999. Entwicklung der betrieblichen Arbeitsnachfrage. *In:* Schmähl W., Rische H., eds. *Wandel der Arbeitswelt – Folgerungen für die Sozialpolitik.* Baden-Baden: Nomos, pp. 61-82

Bellmann L., Bender St., Schank Th., 1999. Flexibilität der Qualifikationsstruktur aus betrieblicher Sicht: Substitutionalität oder Komplementarität. *Jahrbücher für Nationalökonomie und Statistik* **219** (1+2), pp. 109-126

Bellmann L., Conrads R., Hilpert M., Huber A., Kistler E., Kölling A., 1999. *Codebuch zum IAB-Betriebspanel.* Stadtbergen, Nürnberg

Bellmann L., Düll H., Kühl J., Lahner M., Lehmann U., 1996. *Flexibilität von Betrieben in Deutschland: Ergebnisse des IAB-Betriebspanels 1993 – 1995.* Beiträge zur Arbeitsmarkt- und Berufsforschung 200, Nürnberg

742

Bellmann L., Lahner M., 1998a. Betriebliche Erwartungen zur Ausbildungs- und Beschäftigungsentwicklung. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* **31** (1), pp. 79-92

Bellmann L., Lahner M., 1998b. Warum Betriebe nicht ausbilden. *Arbeit und Beruf* **49** (4), pp. 104-108

Bellmann L., Neubäumer R., 1999a. Ausbildungsintensität und Ausbildungsbeteiligung von Betrieben – theoretische Erklärungen und empirische Ergebnisse auf der Basis des IAB-Betriebspanels. *In:* Neubäumer R., ed. *Betriebliche Bildungs- und Sozialpolitik.* Munich, Mering: Hampp (forthcoming)

Bellmann L., Neubäumer R., 1999b. *Die Übernahme betrieblich Ausgebildeter – theoretische Überlegungen und empirische Ergebnisse auf der Basis des IAB-Betriebspanels 1998.* Paper presented at the annual meeting of the Bildungsökonomischer Ausschuss on the subject of education and employment 5/6.3.1999 in Berlin

Bender St., Brand R., Kohaut S., 1999. Möglichkeiten der Erstellung eines Scientific Use Files aus dem IAB-Betriebspanel. *In:* Statistisches Bundesamt. *Spektrum Bundesstatistik* Vol14 (forthcoming)

Bender St., Hilzendegen J., Rohwer G., Rudolph H., 1996. *Die IAB-Beschäftigtenstichprobe 1975-1990.* Beiträge zur Arbeitsmarkt- und Berufsforschung 197. Nürnberg

Bishop H., 1994. The impact of previous training on productivity and wages. *In:* Lynch L., ed. *Training and the private sector: International comparisons.* Chicago: University of Chicago Press

Black S., Lynch L., 1996. Human capital investments and productivity. *American Economic Review* **86** (2), pp. 263-267

Black S., Lynch L., 1997. *How to compete: The impact of workplace practices and information technology on productivity.* National Bureau of Economic Research Working Paper No. 6120, Cambridge, Massachusetts

Brand R., Carstensen V., 1995. Das Hannoveraner Firmenpanel: Ein Betriebspanel in Niedersachsen. *In:* Schasse U., Wagner J., eds. *Erfolgreich Produzieren in Niedersachsen.* NIW-Vortragsreihe Vol10. Hannover

Brewster Ch., Hegewisch A., Mayne L., 1994. Flexible working practices. The controversy and the evidence. *In:* Bewster Ch., Hegewisch A., eds. *Policy and practice in European human resource management.* London, New York, pp. 168-215

Büchter K., 1999. Regeln zur Ermittlung des Qualifikationsbedarfs in Betrieben. *Europäische Zeitschrift für Berufsbildung* No. 16, pp. 7-14

Danish Agency for Trade and Industry, Ministry of Business and Industry 1999. Developing Intellectual Capital Accounts. Experiences from 19 companies, Copenhagen

Dietrich H., Bellmann L., 1998. Das Ausbildungsverhalten der bundesdeutschen Betriebe. *In:* Flitner A., Petry Chr., Richter L., eds. Wege aus der *Ausbildungskrise.* Opladen: Leske + Budrich, pp. 75-103

Doeringer P.P., Piore M.J., 1971. *Internal labour markets and manpower analysis.* Lexington: Heath

Doherty P., Nyhan B., eds., 1997. *Human competence and business development – emerging patterns in European companies.* London: Springer

Düll H., Bellmann L., 1998. Betriebliche Weiterbildungsaktivitäten in West- und Ostdeutschland: Eine theoretische und empirische Analyse mit den Daten des IAB-Betriebspanels 1997. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* **31** (2), pp. 205-225

Düll H., Bellmann L., 1999. Der unterschiedliche Zugang zur betrieblichen Weiterbildung nach Qualifikation und Berufsstatus: Eine Analyse auf der Basis des IAB-Betriebspanels 1997 für West- und Ostdeutschland. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* **32** (1), pp. 70-84

Entorf H., Kramarz F., 1997. Does unmeasured ability explain the higher wages of new technology workers? *European Economic Review 41,* pp. 1489-1510

Entorf H., Kramarz F. 1998. The impact of new technologies on wages. Lessons from matching panels on employees and on their firms. *Economics of Innovations and New Technologies* 5, pp. 165-197

European Commission, 1993. *Growth, competitiveness, employment – The challenges and ways forward into the 21st century.* Brussels

European Commission, 1998a. *Continuing training in enterprises: facts and figures.* Luxembourg: EUR-OP

European Commission, 1998b. *Employment in Europe 1998.* Luxembourg: EUR-OP

European Commission, Eurostat, Cedefop, 1997. *Key data on vocational training in the European Union.* Luxembourg: EUR-OP

European Commission, Eurostat, Cedefop, 1999. *Key data on vocational training in the European* Union. Luxembourg: EUR-OP (forthcoming)

Frazis H.J., Herz D.E., Horrigan M.W., 1995. Employer-provided training: results from a new survey. *Monthly Labor Review* **118** (5), pp. 3-17

Frazis H.J., Gittleman M., Horrigan M., Joyce M., 1998. Results from the 1995 survey of employer-provided training. *Monthly Labor Review* **121** (6), pp. 3-13

Frieling E., 1992. Veränderte Produktionskonzepte durch 'Lean Production'. *In*: Reichwald R., ed. *Marktnahe Produktion.* Wiesbaden, pp. 165-177

Gerlach K., Jirjahn U., 1998. Determinanten betrieblicher Weiterbildungsaktivitäten: Eine empirische Untersuchung mit Daten des Hannoveraner Firmenpanels. *In*: Pfeiffer B., Pohlmeier W., eds. *Qualifikation, Weiterbildung und Arbeitsmarkterfolg.* Baden-Baden: Nomos, pp. 311-337

Goux D., Maurin E., 1997. *Returns to Continuous Training: Evidence from French Worker-Firm Matched Data.* Paris: CREST

Grünewald U., Moraal D., 1996. *Betriebliche Weiterbildung in Deutschland. Gesamtbericht: Ergebnisse aus drei empirischen Erhebungsstufen einer Unternehmensbefragung im Rahmen des EG-Aktionsprogramms FORCE.* Bielefeld: Bertelsmann

Haltiwanger J., 1998. Creating employer-employee data sets. *Monthly Labor Review* **121** (7), pp. 49-51

Hamermesh D.S., 1993. *Labor demand.* Princeton N. J.: Princeton University Press

Hamermesh D.S., 1999. Leeping into the future of labor economics: the research potential of linking employer and employee data. *Labor Economics* 6, pp. 25-41

Hammer M., Champy J., 1994. *Business Reengineering – Die Radikalkur für das Unternehmen.* Frankfurt: Campus (American edition: *Re-engineering the Corporation.* New York 1993: Harper & Collins)

Hartmann J., Kohaut S., 1999. *Analyse der Ausfälle beim IAB-Betriebspanel.* IAB-Werkstattbericht (forthcoming)

Hauptmanns P., Ostendorf B., 1994. *Methodische Erfahrungen und Probleme bei Betriebsbefragungen.* Arbeitspapier Z 2-3/94. Bochum

Hildreth A., Pudney St., 1999. Econometric issues in the analysis of linked worker-employer surveys. *In:* Biffignandi, S., ed. *Micro- and macrodata of firms. statistical analysis and international comparison.* Heidelberg: Physica, pp. 509-540

Holzer H., Block R., Cheatham M., Knott J., 1993. Are training subsidies for firms effective? The Michigan experience. *Industrial and Labour Relations Review* **46** (4), pp. 625-636

Huselid M.A., Becker B.E., 1996. Methodological issues in cross-sectional and panel estimates of the human resource-firm performance link. *Industrial Relations* **35** (3), pp. 400-422

Hutchinson S., Brewster Chr., 1994. *Flexibility at work in Europe.* Institute of Personnel Development, London

Ichniowski C., Shaw K., Prennushi G., 1997. The effects of human resource management practices on productivity: A study of steel finishing lines. *American Economic Review* 87, pp. 291-313

Infratest Burke Sozialforschung, 1998. *Beschäftigungstrends Arbeitgeberbefragung 1998: Methodenbericht.* Munich

Kalton G., Kasprzyk D., McMillen D., 1989. Nonsampling errors in panel surveys. *In:* Kasprzyk D. et al., eds. *Panel surveys.* New York: Wiley, pp. 249-270

Kau W., 1994. Kosten und Nutzen der betrieblichen Berufsausbildung. Ergebnisse der Sachverständigenanhörung. *Berufsbildung in Wissenschaft und Praxis 3*, pp. 12ff.

Kling J., 1995. High Performance Work Systems and Firm Performance. *Monthly Labor Review* **118** (5), pp. 29-36

Kloas P., 1999. Germany: Methods, Tools and Instruments for Anticipating Qualifications/Competencies and Adapting VET. *In:* Cedefop, ed. *Methods, tools and instruments for anticipating qualifications/competencies and adapting VET.* Thessaloniki, pp. 33-50

Kramarz F., 1994. The needs induced by the EU White Paper: Case for a European enterprise panel *In:* Ojo E., ed. *Enterprise panels and the European Commission's White Paper*, Statistical Office of the European Communities, pp. 50-56

Kramarz F., Entorf H., 1997. Does unmeasured ability explain the higher wages of new technology workers? *European Economic Review* 41, pp. 1489-1509

Kramarz F., Entorf H., 1998. The impact of new technologies on wages: Lessons from matching panels on employees and on their firms. *Economics, Innovation and New Technologies* 5, pp. 165-197

Krekel E.M., Beicht U., 1998. Welchen Stellenwert hat Bildungscontrolling in der betrieblichen Weiterbildung? *Berufsbildung in Wissenschaft und Praxis* **27** (2), pp. 22-26

Krebs H., Patak Z., Picot G., Wannell T., 1998. *The workplace and employee survey: Methodological challenges and pilot results.* Statistics Canada

Laaksonen S., Vainiomäki J., 1997. The effects of technology on wages in Finnish manufacturing 1974-93. *In:* Laaksonen S., ed. *The evolution of firms and industries: International perspectives.* Statistics Finland, pp. 454-475

Licht G., Stahl H., 1995. Enterprise panels on credit rating data. *In:* Ojo E., ed. *Techniques and uses of enterprise panels.* Statistical Office of the European Communities: Luxembourg

Lynch L., 1998. Analyzing training and productivity. *Monthly Labor Review* **121** (7), pp. 53-54

Lynch L., Black S., 1995. *Beyond the incidence of training: Evidence from a national employers survey.* National Bureau of Economic Research Working Paper No. 5231, Cambridge, Massachusetts

McGuckin R.H., Nguyen S.V., 1999. Exploring the role of acquisition in the performance of firms: the right unit of analysis? *In:* Biffignandi, S., ed. *Micro- and Macrodata of Firms. Statistical Analysis and International Comparison.* Heidelberg: Physica, pp. 1-24

NUTEK Swedish National Board for Industrial and Technical Development, 1996. *Towards flexible organisations.* Stockholm: NUTEK

Nyhan B., 1999. Zur Errichtung von lernenden Organisationen: Theorie auf dem Prüfstand – Lehren aus den Erfahrungen europäischer Unternehmen. *Europäische Zeitschrift für Berufsbildung* No. 16, pp. 15-26

OECD, 1996. *The OECD Jobs Study: Pushing ahead with the strategy.* Paris

OECD, 1999. *Employment Outlook. Paris*

Prais S.J., 1987. Educating for Productivity: Comparisons of Japanese and English Schooling and Vocational Preparation. *National Institute Economic Review*, February, pp. 40-56

Prais S.J., Wagner K., 1988. Productivity and Management: The Training of Foremen in Britain and Germany. *National Institute Economic Review*, pp. 34-47

Prais S.J., Jarvis V., Wagner K., 1989. Productivity and vocational skills in services in Britain and Germany: hotels. *National Institute Economic Review*, pp. 151-167

Pflanzagl J., 1978. *Allgemeine Methodenlehre der Statistik II.* Berlin: De Gruyter

Sadowski D., Pull K. 1997. Betriebliche Sozialpolitik politisch gesehen: Erfolgsorientierte versus verständigungsorientierte Rhetorik in Praxis und Theorie. *Die Betriebswirtschaft* **57** (2), pp. 149-166

Schmidt B., 1995. Erhebung zur beruflichen Weiterbildung in Unternehmen im Rahmen des EG-Aktionsprogramms FORCE. *Wirtschaft und Statistik*, (12), pp. 867-879

Schone P., 1999. *Analysing the effect of training on wages – using combined survey-register data.* Paper presented at the 10th annual conference of the European Association of Labour Economists 23-26.9.1999 in Regensburg

Sengenberger W., 1975. *Arbeitsmarktstruktur. Ansätze zu einem Modell des segmentierten Arbeitsmarktes.* Frankfurt: Campus

Statistisches Bundesamt, 1996. *Methoden, Verfahren, Entwicklungen.* Wiesbaden

Steedman H., Wagner K., 1987. A Second Look at Productivity, Machinery and Skills in Britain and Germany, *National Institute Economic Review*, pp. 84-95

Steedman H., Wagner K., 1989. Productivity, Machinery and Skills: Clothing Manufacture in Britain and Germany, *National Institute Economic Review*, pp. 41-57

Tessaring M., 1998. Training for a changing society. A report on current vocational education and training research in Europe 1998. Cedefop. 2nd edition, Luxembourg: EUR-OP

Troske K.R., 1999. Evidence on the employer-size wage premium from worker-establishment matched data. *Review of Economics and Statistics* **81** (1), pp. 1-12

Weiß R., 1990. *Die 26-Mrd.-Investition – Kosten und Strukturen betrieblicher Weiterbildung.* Berichte zur Bildungspolitik 1990 des Instituts der deutschen Wirtschaft. Köln: Deutscher Instituts-Verlag

Weiß R., 1994. *Betriebliche Weiterbildung. Ergebnisse der Weiterbildungserhebung der Wirtschaft.* Köln: Deutscher Instituts-Verlag

Weiß R., 1997. *Betriebliche Weiterbildung 1995. Mehr Teilnehmer – größere Wirtschaftlichkeit.* Köln: Deutscher Instituts-Verlag

Westphalen S.-A., 1999. *Reporting on Human Capital; objectives and trends.* International Symposium on 'Measuring and Reporting Intellectual Capital' 9/10.6.1999 in Amsterdam

Willis R.J., 1986. Wage Determinants. *In:* Ashenfelter O., Layard R., eds. *Handbook of Labor Economics.* Vol1, pp. 525-602

Part four:

Employment, economic performance and skill mismatch

The skills market: dynamics and regulation

Jordi Planas, Jean François Giret, Guillem Sala, Jean Vincens

Abstract

This report deals with the dynamics of the balance between the supply of and the demand for skills in the labour market in developed countries, especially those of the European Union. In a context of radical changes in the demand for labour, which have resulted primarily from the development of international trade and technological progress, the transformation of the nature and content of work is forcing the productive system to adapt to new skills within a very short period of time, which often bears no relation to the traditional timescale for the acquisition of qualifications. At the same time, as the average number of years of study per head of population in Europe continues to rise, generations of increasingly highly qualified young people are finding it no easier to obtain employment. On the basis of this twofold observation, the aim of our research is to examine the way in which adjustments are made in the skills market and the role of initial and further-training systems in the regulation of that market.

We have tried to distance ourselves from traditional methods of analysing the relationship between training and employment, which often boil down to an appraisal of the relevance of formal qualifications to the demands of the workplace. These methods tend to present the problem in terms of a functional relationship between a customer (the productive system) and a supplier (the education system). For our part, we intend to study the relationship between skills and employment. This amounts to confirming the hypothesis that human productive capacity is divisible into a number of components that may be acquired in various places, at various times and by various means. If this hypothesis is true, the relationship between the production and consumption of know-how must be more complex than is generally assumed.

This complexity is made all the greater by the fact that the production of skills is, by nature, a fairly unpredictable process. The more distant the horizon, the more difficult it is to anticipate future needs. Beyond a certain horizon, then, the demand for skills is intrinsically unforeseeable. Moreover, if we assume that an individual's various skill levels are constantly changing, that these changes are wrought by the education system and/or the production system and/or simply by social interaction, it becomes necessary to consider the production of skills as a system of cooperation between the educational and the productive spheres. This cooperation is entirely intuitive and interactive. Each of the two systems establishes its strategy in response to the action of the other. Each acts on different information, but the information is subject to that same intrinsic unpredictability as soon as any attempt is made to adopt a long-term perspective.

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745

Table of contents

1. Introduction: contextual elements and proposed line of approach 315
1.1 The demand structure: globalisation, information technology (IT) and unemployment 315
1.2 Changes on the supply side: an ageing population, rising educational attainment levels and more training opportunities 315
1.3 The proposed line of approach 317

2. How can human productive capacity be defined and measured? 318
2.1 Qualification and skill: a matching pair or two different perceptions of the labour market? 319
2.1.1 From qualification to skill – quantitative and qualitative changes 320
2.1.2 Towards a definition of skill 321
2.2 Skill: from concept to measurement 324
2.2.1 What statistical concept can be used for the macroeconomic analysis of skill? ... 325
2.2.2 The measurement of skills and its microeconomic foundations 327
2.3 Recognition of skills, industrial relations and regulation of the labour market: towards a new dynamism? 328
2.3.1 Skill at the centre of industrial relations 328
2.3.2 Recognition of skills and mobility within the labour market 330
2.4 From recognition to validation of skills 332
2.4.1 Dialogue and guidance 334
2.4.2 Specialised systems 335
2.4.3 Skill and legitimacy 335
2.5 Conclusions 335

3. Skill levels, individual skills and demand for labour 336
3.1 From techno-economic development to a skilled labour force 337
3.1.1 Technological progress and demand for skilled labour 338
3.1.2 Organisation change and demand for skilled labour 340
3.2 From labour to skill: what about the role of demand? 342
3.2.1 Skills and technological progress 343
3.2.2 Skills and organisational changes 345
3.3 Conclusions 347

4. The skills market and its regulation 347
4.1 The discrepancy between temporal horizons 347
4.1.1 Formal education and the origin of skills: the temporal dimension of supply 348
4.1.2 Enterprises and the need for skills: 'customer' requirements 352
4.1.3 To what extent does supply determine demand? 354
4.2 From modular skills to modified requirements 355
4.2.1 Adjustment and associated constraints 355
4.2.2 Towards a new definition of mismatches 357
4.2.3 Predicting long-term needs in situations of uncertainty: a case for qualitative adjustments? 362
4.2.4 Regulation of education and training institutions 363
4.3 Conclusions 365

5. General conclusions 367
5.1 Is the state of the market 'determinable'? 367
5.2 Skill: two producers, one product? 369
5.3 Initial education: managing the unforeseeable? 370
5.4 Lifelong learning: social measure or economic policy? 371

6. Bibliography 373

743

1. Introduction: contextual elements and proposed line of approach

This report deals with the regulation of the supply of and the demand for skills in the labour market in developed countries, especially those of the European Union. Economic and social changes in those countries help to determine the ways in which their labour markets operate and develop. In particular, they are locked into a process of globalisation and technological change, especially in the domain of new information technology. This global transformation process is liable to vary in its impact on individual countries, regions, economic sectors, etc.

1.1 The demand structure: globalisation, information technology (IT) and unemployment

Various authors (Castells, 1996; Petit, 1998; Vinokur, 1999, etc.) share the view that the socioeconomic changes experienced by our societies and labour markets are ascribable to 'globalisation' (some speak of 'information capitalism' or of the 'economy of the knowledge-based society', etc.).

This phenomenon has its roots in the 1980s and is characterised by a number of major changes:

- quicker and cheaper exchanges of goods and information;
- free (or largely unrestricted) movement of goods, services and capital;
- concentration of the world's capital into fewer hands;
- widespread monopolistic competition, even in traditionally 'non-commercial' spheres such as education and training;
- internationalisation of development funding;
- government support designed to increase the productivity and competitiveness of national economies, perhaps at the expense of social protection; and,
- globalisation of production facilities and sales outlets as international borders become more open.

In the view of Castells (1996), these changes are linked to an expansion and 'rejuvenation' of capitalism, which are opening a new chapter in its history, a chapter that he calls 'information capitalism'. As Carnoy emphasises (1999, p.147), the essence of globalisation does not lie purely in trade figures and investment volumes or in the extent to which a national economy is truly national *but in a new way of perceiving socio-economic time and space.*

In this framework, it is recognised that the changes prompted by the spread of new information technology have three characteristic features:

– acceleration;
– turbulence; and
– universality.

These three characteristics require the sort of precise analysis that transcends the scope of this report. Acceleration should be understood as the frequency of changes within a given length of time, turbulence relates to the diversity of places within the production system where changes are liable to occur, and universality denotes the speed with which these changes permeate the entire economy.

Changes in demand have also been reflected in more restricted access to jobs and hence to serious mass unemployment, affecting all groups in the labour market, but particularly young people and the least qualified. The effect of these changes has therefore been to increase uncertainty about the future nature and level of demand in the medium and long term.

1.2 Changes on the supply side: an ageing population, rising educational attainment levels and more training opportunities.

Turning now to changes in the supply of labour, we might ask how the active population has been developing in relation to the changes in the production system. If we examine the development of the supply of labour in the countries of the European Union, some broad trends are discernible in almost every Member State:

- a general increase in the number of university and college graduates in the labour market, each generation emerging from the education system more highly qualified than the one before;

- an increase in economic activity rates which is directly linked to educational attainment levels, especially among women (Cedefop, 1998a, pp. 40-46);

- major demographic changes (Cedefop, 1998a, pp. 36-40), including the ageing of populations, which is transforming the web of relationships between initial education, further training and occupational experience;

- an increase in the number of places on training courses and of opportunities for training outside schools and colleges and hence in the prospects of acquiring skills which diplomas cannot even begin to measure (Cedefop, 1997a, and Planas, 1990);

- changes in production processes and work organisation which have tended to create more opportunities for on-the-job training (Cedefop, 1995 and 1998b);

- the development of education and training into a process of lifelong learning;

- polarisation of the lifelong-learning process on the basis of differences in initial education levels (Cedefop, 1997a, and Planas, 1996), effectively closing the door to lifelong learning on those who enter the labour market with low skill levels (Steedman, 1999, and Cedefop, 1999); and finally,

- the gradual transformation of training into a commercial product, which has had a significant impact on the supply structure within the labour market.

If we examine how education systems have evolved in recent decades, it becomes apparent that the countries of Europe have largely opted to prolong the process of formal education at a time when youth unemployment has been high. Is this strategy that education systems have adopted – a strategy which often dovetails with government policy in those countries of the European Union where the education system is tightly controlled by the state – a rational response to the various developments in the labour market?

National statistics on youth unemployment and the results of random surveys show that, in all countries, young people with higher qualifications are more likely to find work. Qualified young people, however, compete in the labour market with older jobseekers who have fewer qualifications but more experience. Given the structure of labour markets, recruitment decisions do not always favour the best-qualified candidate (Béduwé and Espinasse, 1996a), and in certain countries of the Union we see the emergence and growth of phenomena such as job downgrading or reluctance to employ job applicants who are perceived as overqualified.

How should the educational sphere (initial and further training, general and professional education, formal and informal education) respond to this situation? It cannot remain inactive in a society in which change is gathering momentum, in which new technology is being superseded ever more quickly and in which individuals spend increasingly long periods of time in pursuit of knowledge and skills – in short, in a society whose future shape is less predictable or, more precisely, is predictable within an ever shorter time frame.

How are young people (and others) to be prepared for a labour market in which the required skills are increasingly ephemeral and for a working world in which businesses, in the face of ever fiercer monopolistic competition, have to slash the time it takes to turn innovative ideas into products and to put those products on the market?

How does one resolve this problem, which is essentially about the divergence between the horizons of the production system (i.e. technological innovations and order books) and those of the education system, which operates in terms of an individual's lifetime and the time it takes to implement educational re-

forms? Is an increase in training really compatible with the needs of the economy?

1.3 The proposed line of approach

A problem of this type can be addressed from many angles. Some think that price flexibility is an essential and sufficient means of solving this problem of disparate timescales (Friedman, 1997). From a more educational point of view, the problem might be approached through curricula and examination requirements. We could also investigate behaviour patterns and expectations, which are the driving forces of negotiation between the players in this field. Widely though their approaches may vary, all scholars are interested in the same fundamental problem, namely the development of skills and their integration into society and the business world. Some analysts, bewitched by the speed of technological progress in particular areas, have even concluded that the development of job descriptions is now totally unpredictable, and so they implicitly consider our type of research to be futile, because they have overestimated the speed and universality of technological change while underestimating the adaptability of our societies.

Let us examine the 'canonical' form which is used to describe relations between the worlds of business and education and which we shall refer to in this report as the customer-supplier model. An example of this model is provided in Cedefop's first research (Cedefop, 1998a, p.35).

Such a model is extremely potent. It describes the main interactions in terms of economic logic. It serves to reduce the bulk of the empirical and theoretical research in this domain to order and enables statisticians to structure the available data. It serves to identify the main underlying trends that govern the awarding of qualifications and brings into focus the various interpretations of the body of theoretical knowledge.

At a certain level of macroeconomic abstraction, it touches on reality. The education system provides at least part of the training that producers receive. The labour market uses qualified people and thus provides one of the means by which the performance of the education system can be evaluated.

This model certainly corresponds to some extent with the way in which politicians – and the public at large, for that matter – see the problem: businesses and their employees need qualifications, and the purpose of education and training systems is to satisfy that need.

This equation, however, raises a host of old familiar problems (Blaug, 1970).

The customer-supplier model is based on the simplistic assumption that every course of training leads to employment in one of a restricted and clearly defined range of jobs. Conversely, each job presupposes the successful completion of one of a restricted and clearly defined range of training courses. This perception has at least two drawbacks: from a technical point of view it clearly depends directly on the breadth of the designated occupational and qualification categories, while from a factual point of view it is clearly erroneous; one need only study a table of occupations and formal qualifications to see that, however wide or narrow the designated categories, there is little evidence to suggest that this type of correspondence between jobs and training courses exists outside the trades and professions for which specific qualifications are required by law.

According to the perception described above, the product exchanged in the marketplace is aptitude, certified by a degree, diploma or other formal qualification or at least by evidence of a completed learning process within the education system. This highly restrictive hypothesis, however, has attracted strong criticism (Carnoy and Levin, 1985; Tanguy, 1985). The strict interdependence of training and employment which underlies such a hypothesis implies a perfect level of information about what every job entails and about the way in which job descriptions will develop. The 'suppliers' will not be able to satisfy the 'customers' unless the latter can clearly describe their present and future needs. This is subject to two conditions, which are only very partially fulfilled.

a) Jobs must be defined in terms of 'prescribed' job descriptions, i.e. the tasks they entail must be entirely specifiable.

b) The medium- and long-term development of jobs must be predictable, i.e. we must know how technology and markets are going to develop.

It is incontestable (and, it must be said, universally accepted) that these conditions cannot realistically be fulfilled. Be that as it may, this model remains very largely the basic frame of reference.

If one thing emerges clearly from the debate between the two sides of industry, it is that education and training have long been presented (and still are, to a degree) as a panacea for all the ills of society, especially those inflicted by unemployment.

Among labour-market analysts, the customer-supplier model still has many adherents. Some of them apply it directly in order to make forecasts about training requirements and to fashion instruments with which the education system can be guided. This is the case in the developing countries, but it also happens in developed countries. These researchers, in other words, believe that the advantages to be gained from such an approach in terms of deducing the production level of education systems from variations in economic production and in global macroeconomic performance justify the statistical risk inherent in the acceptance of technically unsound hypotheses. Recent developments in the realm of endogenous growth have confirmed them in this belief.

The relationship between the creation of human productive capacity and its use in production and development is not a straightforward one. It does seem to us, however, that it is possible, and indeed desirable, to see that relationship in less mechanical terms and to regard it as more dependent on the interactivity of the market and more in tune with the changes in our societies. To put it another way, we are suggesting an approach that fits more neatly into the contextual framework we have just presented, characterised as it is by momentous changes that have affected both the supply of labour and the demand for labour.

If, for the sake of realism, we abandon the purely functionalist rationale and its implicit hypotheses of a perfect supply of information and ideal education systems, we must propose a new rationale based on the concept of skills and on a dynamic view of their creation. This implies that we should put forward an almost completely revised analysis of the mechanisms by which people are placed in employment and by which their skills are brought into line with their tasks. It also means that we shall have to redefine the very concept of mismatches.

This new perspective will lead us, in the course of the present report, to reply to three types of question.

1. How is human capital to be defined and measured when we no longer regard certificates as the sole proof of qualification? How do we then recognise and certify the assets that are actually exchanged in the labour market?
2. What role do demand for labour and, more particularly, technological and organisational change play in the development of skill requirements?
3. How is a balanced skills market to be defined and achieved? And what constraints and adjustment mechanisms does this entail?

2. How can human productive capacity be defined and measured?

In this chapter, we shall address the various problems associated with any attempt to define and measure human productive capacity in the context of the economic and social changes that our societies are currently undergoing. Our examination will be conducted in three stages.

a) We shall try to circumscribe the concepts of qualification and skill.

b) We shall then relate the concept of skill to the problem of measuring human productive capacity.

c) Finally, we shall examine the diverse solutions that have been adopted to address the problem of recognising skills.

2.1 Qualification and skill: a matching pair or two different perceptions of the labour market?

Human productive capacity, people's capacity to perform tasks or achieve objectives – what we shall call skill for the sake of simplicity and as the closest approximation – covers a host of terminological concepts.

Moreover, the definition of each term often varies within the scientific world, either from one discipline to another or from one school of thought to another, as well as within the working world (for example the debate in France between management and the unions on the concept of skills).

In fact, the terminology used in this domain is largely derived in two different ways from the language of industrial relations.

1. Some of it is the vocabulary (and the semantics) used in the market to match supply with demand. In a market characterised by extremely imperfect information, such matching is a crucial factor. At the institutional level, the debate on certificates, on their recognition and on the extent to which they feature in collective agreements and pay scales, demonstrates the importance of words. At the political level, the current debate on the recognition of skills acquired on the job by means of 'pseudo-diplomas' illustrates what an extension of this vocabulary can imply. At the theoretical level, the theory of signals and its concomitant, the theory of information, also show us that words, the concepts they represent and the strategic use that is made of them are themselves a balancing mechanism.

2. The terminology and the underlying conceptual debate pose a fundamental question: what exactly is exchanged in the labour market? The question may appear incongruous and the answer self-evident. However, as soon as we move away from the standard neoclassical paradigm, the answer becomes less obvious. Irrespective of the duality of the labour market/job market, there is evidently little to be gained by suggesting that work/labour is exchanged in the market if work or labour cannot be regarded as a homogeneous good or as an entity with fully defined characteristics. Attempting to understand the labour market, in other words to discover how people are allocated to economically useful tasks, entails a careful definition of the characteristics of labour and an evaluation of the heterogeneity of productive capacities, not only between workers but also the range of ability levels within any given individual as examined by cognitive scientists and ergonomists. This is clearly all the more essential if our aim in conducting such an analysis is to learn lessons about the education system and its regulation.

To simplify the debate, we shall formulate our proposition around the concepts of qualification and skill.

It is plainly not a simple question of terminology. As Lichtenberger wrote (1999, p.93), scarcely anyone still disputes today that the emergence of the concept of competence in the domain of industrial relations and in the management of human resources is no mere cyclical effect associated with a particular style of management or with the erosion of previously acquired guarantees but is actually a sign of profound change.

Accordingly, no consideration of the relationship between the production system and the education can ignore this debate.

Summing up such a debate, however, is no easy task. Three elements seem to be essential if we are to define what this debate is all about.

a) On the one hand, there are clearly observable changes in the way in which labour is mobilised and used in the market.

b) On the other hand, behind the terminology there lies an issue that is crucial to the development of social and industrial rela-

tions. Governments, employers and labour are establishing their positions in a debate which is gradually taking centre stage within the collective-bargaining process and may well come to be at the heart of the future development of labour law.

c) Finally, acceptance of the concept of competence as part of the currency of collective bargaining necessarily implies that competence, i.e. skills, must be made measurable and negotiable. This brings us back to the problem of formal recognition.

2.1.1 From qualification to skill – quantitative and qualitative changes

If we identify qualification (productive capacity) with the certification provided by the system of education and (chiefly initial) training, the problem is a simple one.

A certificate is required for a job, except in the case of unskilled work performed by non-certificated employees. One is a necessary and sufficient condition of the other, provided there is no shortage of work for holders of a particular certificate.

Imbalances can take two forms. There may be too many qualified people for a given type of employment, or there may be too few qualified people for the available jobs. In either case, it would be necessary and sufficient to produce exactly the right number of people with the certificate in question in order to redress the balance.

Expressed in this intentionally rather provocative way, these are the first principles of educational planning based on anticipated market requirements in terms of qualifications (the 'manpower approach'), as examined by Blaug some 30 years ago. This approach often completely assimilates initial education to the skill level of a labour force, taking no account of training in the workplace.[1] But, as Blaug (1970) emphasised, one of the main problems of the educational economy concerns the way in which training, and especially initial education, contributes to the qualification of the labour force. At the individual level, this qualification is a complex function of basic intelligence, psychomotor capacity, occupational experience, formal or informal training in the workplace and educational attainment. More recently, using approaches that often vary widely from one discipline to another, researchers have been trying to introduce the concept of skills, which seems to be gradually superseding that of qualifications. Going beyond the purely semantic debate, let us examine more closely the scope and purpose of this concept in the definition and measurement of productive capacity.

The concept of skill – sometimes referred to as competence[2] – has been developed as a better means of describing the complex diversity of ways in which the productive capacities of individuals are amassed. There are, of course, 'explicit' initial and further education and training, but there is also on-the-job training, which may be entirely informal or partly formal and may or may not lead to the award of a certificate, and there is also the social learning process. This complexity is accompanied by an array of acquisition mechanisms which is made all the more extensive by the fact that most skills can be acquired by different complementary and/or alternative means.

This concept, then, is presented as a key to better understanding and measurement of individual human capital in a context of an expanding education system and diversification of training scenarios. The purpose of this concept of skills is to arrive at a definition of individual human capital which more accurately reflects the way that capital is used in the workplace by taking due account of the extracurricular acquisition of knowledge and skills. Its aim is to embody the complexity,

[1] Ahamad and Blaug (1973, p.13) put it this way: *This means that educational plans which are drawn up on that basis may over-estimate the change in investment necessary for different types of education, since part of the forecast shortages and surpluses will tend to be eliminated by on-the-job training and by employers' retraining schemes.*

[2] The concept of skill that we shall use in the rest of this report is defined in subsection 2.1.2 below.

the individuality and the efficiency of human labour. Skill is at least partially at odds with the concept of qualifications, which is based on the principles of standardisation, transparency and formal recognition. The concept of skill is intended to go beyond the idea of prescribed work that is basic to the Taylorist system of industrial management, but it also calls into question both the advantages and drawbacks of the occupational recognition that derived from Taylorist work organisation. To cite Lichtenberger (1999, p.94), we should not become involved in a similar process today in the confrontations about the primacy of skill, which is both decried as symbolising the dismantling of hard-won gains and lauded as recognition of a neglected asset, namely the identification of employees with their work or, as one trade unionist put it, the human side of work.

The skill of an individual seems to be more closely related to his or her ability to solve problems; such problems are generally new and cannot always be resolved by recourse to existing systems (Legrand-Lafoy and Roussillon, 1995). If this is the nature of skill, we might wonder whether it can be exclusively acquired in the scholastic environment. Indeed, it seems more likely to be an intrinsic function of a person's job and to be definable by the extent to which it matches the requirements of that job. Skill appears to be dissociable from the concept of occupational experience, even if formal training is the essential source of basic skills and the bedrock on which experience can be built up.

This accumulation of experience is quite different to the 'learning by doing' to which Arrow refers. It is not merely a matter of simple productivity gains achieved through training in competitive tasks performed in a Taylorist context. On the contrary, it is about gathering experience of a non-routine nature, resulting from the active involvement of the individual. This idea of the dynamic development of skills is reflected in the managerial approach. The literature in which that approach is propounded defines it as a process, as a *chain of operations set off by a particular event (the intention of resolving a problem) which transforms inputs (resources) into output (performance)* (Devallae, 1998, p.13). It is also *an ability to mobilise a specific combination of knowledge and of know-how in order to achieve a given performance standard*.

Conventional training alone will not develop skill. It is necessary, says Delavallae (1998, pp.13-14), to *put trainees into learning situations that will enable them to use the knowledge they have acquired in training and thus to enrich the know-how they will require for the solution of new problems and to monitor their progress closely*. Training, be it initial or further training, is presented here as one input among several in the creation of skill. In most cases, it is a necessary condition. Only in exceptional cases is it the sole condition.

In this model, enterprises need to recognise the skills of individuals, but certificates or academic records alone do not provide them with the necessary information. The information that can be obtained from certificates and CVs is imprecise and inadequate, as is demonstrated in Mincer's literature on the functions of education and experience as well as in the report by Espinasse and Vincens (1998) on the development of the relationship between certificates, occupations and pay levels in the five largest countries of the European Union, which is even more relevant to our present analysis.

2.1.2 Towards a definition of skill

Let us now consider the purpose of thinking in terms of skills. If we accept that skill is really the good that is traded in the labour market, how does this alter the analysis of matches and mismatches between qualifications and job requirements?

If we may come back to the problems involved in the definition of skill, our aim is neither to propose a precise and exhaustive definition of skill nor to resort to one of the many definitions that exist in academic literature or in the field of industrial relations. Defining skill is more than a mere academic exercise; it is a vital social issue for all interested parties in every country (Merle, 1997), an issue on which consensus is seldom achieved.

750

Instead of an outright definition, we shall try to plant a few markers in order to stake out more clearly our understanding of skill. This understanding is based on three characteristics on which we believe there is consensus.

a) Skill is a vector

The skill of an individual is the conjunction of a number of elementary capacities (knowledge, know-how, life skills, etc.). Each individual is equipped with a vector which is specific to him or her and which would probably turn out to be unique if it were defined in sufficient detail. Reducing this vector to a set of formal qualifications is often a rather unrealistic simplification, for if skill were synonymous with qualification, how could individuals with the same diploma have different job and career prospects, for example? *Each component in this vector is acquired by different means.* Some are acquired through explicit formal training, others are obtained in less formal contexts, such as training on the job and learning by doing, while others are acquired in social life outside the workplace or are simply inborn (or picked up in infancy or early childhood). Lastly, some skills may also be acquired by some combination of these means.

The purpose of applying Lancaster's producer/consumer model (1966 – see Box1 below) is to provide a dynamic and individualised explanation of the production of skills on the basis of knowledge, seen here as a production input. The same skill level may be attained by various combinations of inputs. This level will depend on the individual's ability at the start of the process, on the knowledge he or she has acquired through implicit and explicit training and the time invested by the individual in the absorption of knowledge. The two main production methods are explicit training, especially initial education, and implicit training, through occupational experience, but we cannot exclude other less formal means of skill production. Initial education and the acquisition of experience in or away from the workplace enable individuals to amass specific knowledge but also to develop other qualities which are often of a more general nature, such as the ability to learn and personal initiative. Skill cannot be regarded as a stock of fixed knowledge that is acquired once and for all time at the start of a person's active life. On the contrary, skills are developed throughout one's working life or at least during the first years of an individual's career. After a certain period, the marginal utility of the time spent in various forms of training diminishes as its marginal cost increases, eventually reaching a point at which individuals have no more to gain by developing their skills.

b) The economic value of a skill is specific to each job (i.e. work situation) and to each company

As a general rule, workers will not use all the skills they possess in the performance of their tasks. Different situations in the workplace will demand the use of different skills. There is no intrinsic or absolute skill. Useful or productive skill depends on the conditions in which an occupation is pursued. Some authors even doubt the very existence of individual skill or at least that it can materialise fully outside the collective context.

In the behaviourist and evolutionary approaches, skill is seen as an accumulation of knowledge resulting from a collective learning process within an organisation. One of the problems lies in assessing the extent to which individual skill contributes to the collective competence of a company, organisation or team of employees. For example, the collective competence of individuals i and j will be greater than the sum of their individual skills if they form an organisation, thus:

$$C_{ij} > C_i + C_j$$

Within a company, the concept of skill is not only a matter of know-how when it comes to solving problems affecting the relationship between the company and its environment but also of know-how in dealing with relationships within the company (Marengo, 1995). Skill is therefore understood as *the result of efforts made by the company to create capital in the form of human resources and information* (Devry, Debuisson and Torre, 1998, p.126). Unlike individual skill, this collective competence is an intrinsic part

Box 1: A model of skill acquisition

Let us return to Lancaster's consumer/producer model. Skills are produced by the individual on the basis of the acquisition of a body of knowledge. The fundamental hypothesis is that skill may be regarded as an output which depends on a temporal production process in which various inputs are used. In Lancaster's theory, each skill is associated with the satisfaction of a need, and the individual seeks to satisfy the most useful combination of needs.

If skill is defined in Lancaster's terms as a collection of characteristics produced from consumed goods, i.e. knowledge (Lancaster, 1966), it may be notated as a vector of characteristics at date t. This vector is represented as Z ti. At any given moment, the production of an individual's skill Zi at date t may be expressed in the following formula:

$$Z_i = f(x_i, t^{ET}, t^{ITW}, t^{ITOW}, E)$$

The individual will be able to produce his or her characteristic skill on the basis of the types of knowledge (x_i) he or she wishes to acquire (scientific knowledge, technical knowledge, relational knowledge, etc.),[3] of the time he or she devotes to the three means of acquiring knowledge (ET represents explicit training, ITW stands for implicit training in the workplace, and ITOW is implicit training outside the workplace) and of the individual's own initial capacity to produce these skills (E_i).

The utility of an individual's set of satisfied needs, which will depend on the skills the individual has produced, may be expressed in the following formula:

$$U = U(Z_1, \ldots Z_i, \ldots Z_n)$$

Each skill (Z_i) has a production cost

$$= p_i x_i + w.(t_i^{ET} + t_i^{ITW} + t_i^{ITOW})$$

The individual is restricted by his or her monetary income, which may be derived from an economic activity for which he or she is remunerated with wage w or from other sources of funding (student grant, parental assistance, etc.), which we shall notate as v. We shall assume here that w will not be dependent on Z during the skill-production phase.[4]

$$p_i x_i = w t_w + v$$

A further constraint on the individual is the time (t) that he or she is able to devote either to paid employment or to a course of training (h).

$$T = t_h + t_w = t^{FE} + t^{FIE} + t^{FIHE} + t_w$$

The individual's potential income (R) is therefore equal to the cost of the inputs involved in the acquisition of knowledge (book purchases, course fees, etc.) and to the opportunity cost involved in sacrificing a regular wage for the period of the various training courses.

$$p_i x_i + w \qquad t_h = R$$

The maximisation formula may be presented algebraically like this:

$$\text{Max } U(Z_1, \ldots Z_i, \ldots Z_n)$$

subject to the following constraints:

$$p_i x_i = w t_w + v$$

$$T = t_h + t_w$$

[3] The number of areas of knowledge will not necessarily correspond to the number of skills.

[4] The question of the economic value of these skills is not explored in the model; it is merely assumed that acquired skills will enhance the utility of the individual. The assumption that pay does not depend on acquired skills is only tenable in the short term and that w will increasingly become a function of Z.

of the organisation and is created by a collective learning process based on interaction (Lundvall, 1997) or on organisational knowledge creation. In the view of Nonaka (1993), interactions between different skills are developed by the production of tacit and codified knowledge in a crystallisation process. When this happens, the tacit and codified knowledge that has been created and acquired becomes part of a company's capital assets.[5] This process of modifying and recreating skills constitutes *a system of organisational knowledge creation in the sense that the organisation retains and reveals the traces of those players who, collectively and through individual interaction, have created knowledge*. The knowledge creation itself results from a process of *incessant updating of the forms of knowledge in the framework of a specific activity* (Devry, Debuisson and Torre, 1998, pp.123-124).

It is, however, obvious that this collective competence poses problems of measurability, recognition and, above all, of transferability to the individuals who make up the organisation.

c) It is not easily measurable in advance (other than in terms of probability)

The vectorial dimension of skill, the range of variations in the relative importance of individual skills and the vast array of working situations in which these skills come into play make it impossible to determine in advance how a particular set of skills will translate into productivity. In any recruitment process, the employer initially seeks indicators of applicants' productivity potential. This information is partly provided by paper qualifications (Arrow, 1973), which are an imperfect measure of the individual's propensity to work productively. An examination, on the other hand, in which the various skills of applicants were put to the test would be a considerably more reliable 'signal' (as defined in Spence, 1974) of the productivity levels that individuals might be expected to achieve in a given job. Recruiters are faced with a twofold problem. On the one hand, they have to identify the skills that the individual possesses; on the other hand, they have to translate those skills into a potential level of productivity for each job vacancy.

The fact that a jobseeker possesses a degree or diploma gives prospective employers a rough guide to the sort of performance they might expect from such a candidate, more or less irrespective of the job in question. Selection on the basis of skill levels, however, is liable to result in the recruitment of candidates with widely disparate productivity potentials if skill is not clearly measured, which is why it is essential to measure skills accurately or to assess and recognise them.

2.2 Skill: from concept to measurement

According to Wolf (1994), while skills are of major importance in national and European policies, there is still a need to reach agreement on what skill actually means. The issues of definition and measurement, says Wolf, are crucial. The skills of individuals in the labour market pose problems in terms of measurement and, in a more general sense, in terms of management of the information required for dealings in the labour market.

There is a need to try to conceptualise the measurement of skills and to standardise the instruments of evaluation.

In fact, it is just as essential to know the value of human resources as it is to know the value of the other factors of production. It is simply more complex to measure the former than the latter. The problems involved in such an evaluation may be categorised under two headings:

a) the 'macroeconomic' problem of evaluating the available human capital;

b) the 'microeconomic' problem of information and human-resource management for employees and employers.

[5] The question of the economic value of these skills is not explored in the model; it is merely assumed that acquired skills will enhance the utility of the individual. The assumption that pay does not depend on acquired skills is only tenable in the short term and that w will increasingly become a function of Z.

2.2.1 What statistical concept can be used for the macroeconomic analysis of skill?

During the eighties, the 'global' measurement of human capital became a particularly ticklish problem, as Castells emphasises (1997, p.58): *For the first time in history, the human mind has become a direct productive asset, rather than just a decisive production factor; its significance and productive value is also changed by its cultivation, through training in the broadest sense.*

Those years were marked by a significant change in the nature of investments. The balance between physical and intangible investments varied widely. An OECD report (1996) shows that, in 1987, expenditure on intangibles was the major form of investment in Germany, Sweden and the United Kingdom. The report also highlights the complementary nature of these two types of investment as well as the high level of technology that these investments had generated.

The volume of intangible investment has a direct bearing on production methods and, moreover, on the development of production models. The statistical measurement of skill is therefore a challenge to those who are responsible for macroeconomic management. Growth models and analyses too often estimate the impact of the human factor indirectly by means of an external indicator (Denison, 1962), which is more or less well adapted for use in the model or analysis. No direct account is taken of certificates, although they are admittedly very imperfect indicators of skill, and analysts are content to include two types of labour (skilled and unskilled) among the factors of production.

The challenge is to endow macroeconomic analyses with a more precise conceptualisation of the stock of human resources and to create the statistical tools with which such analyses can be conducted (IFAC, 1998).

To convince ourselves of this, we need only call to mind some problems that are examined with the aid of a proper macroeconomic analysis of human resources. For example:

- the structural disruption of the active population caused by mass training systems, including higher education;
- the accelerated transformation of employment structures and job descriptions;
- the obsolescence of skills in the labour market;
- the restriction of the internal markets within labour markets and its impact on careers and on informal mechanisms for the production and recognition of skills.

We are familiar with the limitations of any attempt to codify knowledge (Lundvall and Borras, 1997). The main limitation is undoubtedly the distinction between codified and tacit knowledge. It is a key element in identifying and understanding the nature of the cognitive changes in which the very concept of skills is rooted.

It is clear that the intrinsic complexity of the concept of knowledge, combined with the constraints of collecting and codifying the necessary statistics, make it impossible to effect a direct macroeconomic measurement of skills and that economists will therefore have to make do with indirect measurements.

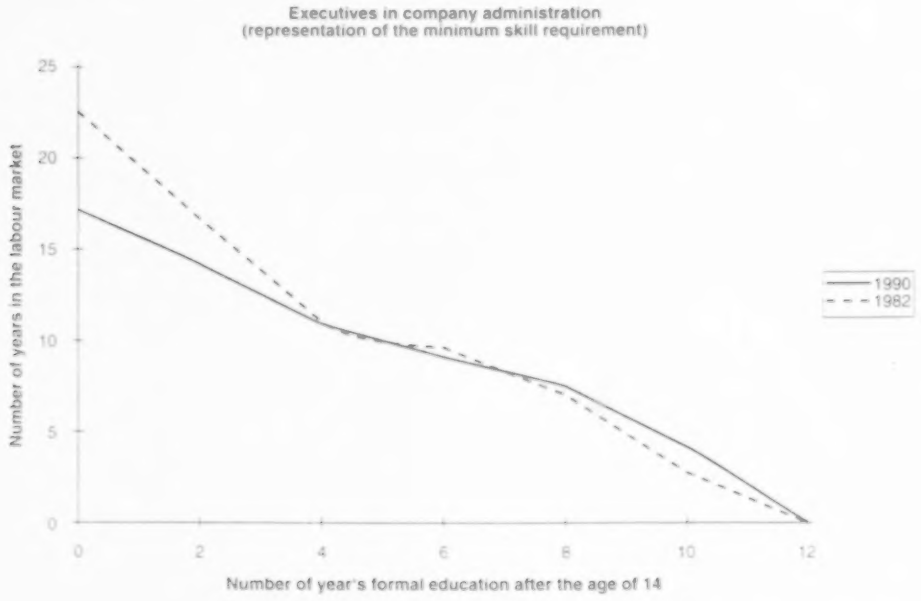
The simplest way of measuring skills indirectly is to assess the quality of the labour force on the basis of its stock of formal qualifications. This has two strategic advantages.

- The information is available and can be quite reliably codified.
- This makes it possible to design models on the basis of a heterogeneous labour force, the various components of which are competing for access to jobs.

This solution also presents a number of disadvantages, because it ignores such factors as occupational experience, seniority in the labour market and the acquisition of knowledge outside the education and production systems.

One means of introducing the concept of skill into macroeconomic analysis was suggested in

Figure 1: Minimum skill requirement for appointment to executive posts in company administration in France



Source: 1982 and 1990 censuses, INSEE (Institut national de la statistique et des Etudes Economiques – National institute for statistics and economic studies).

the framework of the Cedefop Diplomas and the Labour Market project (Béduwé and Espinasse, 1995b). It consists in considering a simplified concept of skill based on a vector with two components: the educational qualification (possibly measured by the length of the course of study required for its attainment) and the employee's total seniority (for which age might serve as a suitable approximation).

This method would enable analysts to take account of empirical evidence which is available in all countries of the European Union. Apart from the regulated trades and professions, access to which depends on possession of a legally prescribed diploma or degree, all trades and professions have members with a variety of qualification levels and seniority. Statistical analysis very clearly demonstrates, in each country and in every period, a substitution effect between the acquisition of these two components of skill.

The curve on the graph in Figure1 gives an example of this sort of equivalence in the domain of access to employment. By way of example, let us consider the minimum level of educational attainment and professional experience of survey respondents in executive posts in company administration in France for the years 1982 and 1990 (Figure1).[6] These posts are open to first-time job applicants, provided the time they have spent in secondary education and at university and/or college comes to a combined total of 12 years! In other words, only the highest level of educational achievement can compensate for a lack of professional experience. Conversely, such posts are also open to non-graduates who have more than 20 years' professional experience.[7] Employees whose levels of edu-

[6] These two curves were drawn on the basis of a method proposed by J.M. Espinasse (1997) to define the minimum skill requirements. They represent minimum combinations of educational attainment (established on the basis of the respondents' declared qualification level) and seniority in the labour market (calculated on the basis of age and estimated date of completion of formal education).

[7] Measured on the basis of seniority in the labour market.

761

cational attainment and/or professional experience exceed these thresholds automatically possess the minimum skill requirements for executive posts. In practice, recruitment decisions are plainly not based on the criteria of formal qualifications and professional experience alone. Not all of those who are eligible[8] for a particular type of post will be appointed. Candidates will be expected to possess other skills too. This way of quantifying the concept of skill is obviously very restrictive. It does, however, provide the basis for a macroeconomic approach to the measurement of skill.

2.2.2 The measurement of skills and its microeconomic foundations

The word 'skill' (French *compétence*)[9], in the sense in which we use it here, has only begun to find its way into the vocabulary of economics and has hardly ever been tested. The concept itself, however, is not really new.

Human capital, as originally defined, comprises all the productive capacities of each individual, including his or her operational aptitude in the widest sense (general knowledge, specialised knowledge, know-how, experience, etc.). The two main instruments for the creation of human capital are in-service training (experience and continuing vocational training) and initial training within the education system. In the view of Becker (1993, p.19),[10] schooling is at the heart of this creation of human capital: *Human capital analysis assumes that schooling raises earning and productivity mainly by providing knowledge, skills, and a way of analysing problems*. However, he modifies this statement a few paragraphs further on (p.20): *Of course, learning and training also occur outside of schools, especially on jobs. Even college graduates are not well prepared for the labor market when they leave school, and they are fitted into their jobs through formal and informal training programs. The amount of on-the-job training ranges from an hour or so at simple jobs like dishwashing to several years at complicated tasks like engineering in an auto plant.*

Becker, then, does not dismiss the other means of creating human capital, such as the informal training that individuals receive within the family, through their social contacts and even during their national service. He says that other activities which are not directly linked to the training process contribute to the creation of human capital and increase individual productivity. In particular, the various activities in which jobseekers engage during their jobsearch enable them to increase their knowledge of the labour market and so to invest in their own productive potential.

Expressed in such general terms, the definition of human capital is hard to criticise, but the reduction of this general definition to the oversimplified equation

qualification = length of study

which is found in many applications of empirical findings is no doubt rooted in the need for measurements which is inherent in statistical and econometric approaches. In measuring human capital, a lack of data often makes it impossible to take account of the diversity of forms that human capital can take and the various ways in which it can be created, while the polarisation of educational economists on the subject of formal qualifications is also a stumbling block. Nevertheless, even when the theory of human capital was still in its infancy, Rosen (1972, p.326) emphasised that experience, which is a proxy for implicit training, appears in many cases as a more important skill factor than initial education: *Yet, much evidence suggests that a large fraction of directly marketable skills possessed by individuals are not acquired from formal schooling, but rather from work experience.*

More recently, the introduction of the concept of the job into neoclassical analysis of the labour market (Lazear, 1995a and 1995b) paves the way for a new conception of qualification which is closer to the concept of skill and less

[8] In terms of experience and qualifications.

[9] See section 2.3.1.

[10] Third edition of *Human Capital*.

closely related to initial education. Lazear states (1995b, p.263), in connection with the limited significance of the correlation between education and pay levels within a specific occupational category or company, that *For example, rates of return to education estimated by using within-firm data might be very low because a firm's decision to hire a worker trades off unobservables against observed variations in education. All workers hired into a given job might have the same amount of human capital irrespective of differences in their level of schooling*. However, the relationships between skill and pay levels and, more generally, between skill and jobs, while commonly acknowledged, remain largely unexplored, although some empirical studies have stressed the important role of particular skills in relation to educational attainment. (Lee, 1986; Black and Lynch, 1996)

Acknowledging that skills are heterogeneous necessarily entails addressing the problem of their transferability, for skill is all the more marketable if it can be transferred. Is the transferability of skill linked to the way in which it is acquired? Is skill – or, to be more precise, a skill – more easily transferable if it is acquired through initial education (to put it in more general terms, an through an explicit form of training) or if it is acquired on the job?

To Perkins and Salomon (1989), work experience often appears to be a more effective means of producing transferable skills than initial education. Taking the opposite view, Nordhaug and Gronhaug (1994, p.91)[11] emphasise that competence acquired through education generally proves to be transferable to a larger number of companies than the competence that is born of experience. The apparent contradiction between these two propositions probably derives from the difference in the level of generality or specificity of the skills on which the respective authors based their analyses. In other words, it derives from a lack of consistency in the measurement of skill or competence.

Opting for the view that skill should be considered as a vector is one way of circumventing this lack of consistency. Rather than being considered in its immeasurable globality, skill is broken down into a number of distinct elements which are easier to calibrate and are open to more precise analysis.

2.3 Recognition of skills, industrial relations and regulation of the labour market: towards a new dynamism?

The debate about qualification versus skill is no mere academic exercise. Not only is it high on the political and social agendas, particularly in the context of pay negotiations; it is also at the heart of the issue of mobility within the labour market.

2.3.1 Skill at the centre of industrial relations

A consensus on the concept of qualification, though achieved at the end of a long, hard struggle, is now one of the cornerstones of industrial relations as we know them. Its impact on collective bargaining, on the nature of employment contracts and on pay scales is crucial and has been the subject of an enormous wealth of literature.

As Barbier et al. (1996) stress, the concept of qualification is attached to the social model of the glorious thirties, which was characterised by the development of large industrial corporations, the Taylorist system of scientific work organisation, the centralisation of managerial functions, centralised pay negotiations, workforces structured on the basis of seniority, strong trade unionism, and so forth.

The concept of qualification, in the form in which it is recognised by management and labour in at least some countries of the EU,[12]

[11] *Individual competence may be gained through education and experience in the work place. Competence obtained through education is general in the sense that is applicable in more than one firm and often in a variety of jobs. Competence gained through experience is more or less specialised by being linked to the idiosyncracy of the firm in which it has been acquired.*

[12] Especially in France and Spain.

is associated with the idea of a stock of knowledge which is necessary and sufficient for the pursuit of a given occupation and on the basis of which hierarchical ranking and pay structures can be determined. This knowledge and its validity are held to be certified by the formal education system (schools and, in some cases, institutions of further and higher education) – so much so that, in some languages, qualifications and certificates are synonymous terms.

In order to arrive at a better understanding of the nature and dimension of the changes that are taking place, we must examine the role played by the traditional concept of qualification in the labour market and its association with the idea of certification.

In different ways in different countries, but throughout the European Union, qualification and the manner in which it is certified remain important elements of industrial relations.

They largely define the structure of the hierarchy, the allocation of responsibilities and employees' pay levels. In the recent past, formal qualifications were plainly a fundamental element in the regulation of the labour market. They continue to play a key role to a great extent, even though this role is gradually changing as technology transforms organisational structures and as new generations appear in the labour market with ever more degrees and diplomas.

The concept of skill is quite a different matter. It relates to a person's capacity to assume a specific and measurable set of responsibilities in the context of a given occupation. It therefore constitutes a *revalorisation du travail concret* – a revaluation of actual work (Lichtenberger, 1999, p.93). The manner in which this capacity is acquired is of little importance, and its link with the certificates awarded by the education system is loosening.

The accelerating pace of change to which we referred before has also made itself felt in several aspects of individuals' careers. The changing skill requirements, whether in terms of basic or specialised skills, that individuals have to fulfil in the course of their working lives call into question the validity of the concept of a trade or profession as a relatively stable body of predefined knowledge and abilities that can be encompassed in a similarly stable curriculum of initial education which qualifies individuals for employment in particular occupations.

Today, that body of knowledge and know-how which is defined as a trade or profession is less and less stable, and its role in industrial relations, though not disappearing, is tending to change. The symbol of this change is a shift in terminological usage which reflects the desire to move from the measurement of productive potential by membership of a trade or profession or by educational qualifications towards a less organic type of on-the-job measurement. Behind this change lie two incontrovertible facts: on the one hand, there are the objective changes in the content and character of trades and professions, and on the other hand there is the pressure for a certain degree of deregulation, or for a new form of regulation, of industrial relations in which membership of a trade or profession and external certification have traditionally been a key element in the collective definition and association of employees and in the establishment of their vested rights. These changes pose new challenges. They are a source of new conflicts and require new compromises, which, according to Y. Lichtenberger (1999, p.104), can only take shape in the context of a redefinition of work itself, of its purpose, of the value of the diverse forms of investment, of development prospects, etc., and thus of the concept of skill.

Such a transformation also entails a profound change in the very nature of the employment contract. Alain Supiot (1994) enumerated the principal developments in this direction, while conceding that none of them had yet been fully absorbed. Subordination, he said, has been constantly diluted, organisations are delegating increasing powers of initiative and responsibility, the link between work and pay is loosening in favour of greater

continuity of income, given the vagaries of working life,[13] etc.

One effect of the erosion of the traditional importance of trades and professions is the development of 'transverse' skills, in other words skills which can be used (and re-used) in a wide range of real working situations and which may apply to operations carried out by members of quite distinct trades and professions and may therefore cut across boundaries drawn in collective agreements and pay scales. These skills assume a strategic value in the careers of individuals. They also play a strategic role in the new forms of work organisation and risk management.

Our education and training systems, as we shall see below, are stll far from establishing transparent, i.e. clear and legitimised, systems for the recognition of skills that have been validated either by the training systems themselves or by the labour market. This deficit has a fundamental bearing on the development of a system of further training and industrial relations which can meet the challenges that already confront us.

Following a period during which companies tried to foster loyalty among their staff by developing internal labour markets and concluding collective agreements in which training and promotion prospects were guaranteed, the business world is now retreating, at least partially, from this policy, which was designed not only to prevent industrial conflict but also to ensure a constant supply of quality labour. This retreat began in the early eighties, when companies began to reserve the benefits of secure employment for the members of their staff who were indispensable to the production process. Today, without actually reneging on collective agreements, firms are trying to lessen their impact. In particular, career patterns and individual training programmes, which, in accordance with the idea of an internal labour market, had long been institutionalised in career plans and sometimes even in collective agreements, are now more likely to be left to the initiative of the individual employee.

A reduction in the average length of service within companies is observable in most countries of the European Union, albeit to a varying extent from one country to another and more especially from one generation to another of the active population. While the phenomenon is most conspicuous in the countries of Southern Europe, such as Spain, average seniority has fallen in all countries of the EU and among all age groups represented in the labour market.[14]

Finally, if we seek to move from a training-based approach to employment to a skills-based approach, we must bear in mind that, over and above all the concepts and socioeconomic analysis, we are also dealing with a subject at the heart of industrial relations and collective bargaining. It is quite likely that this debate will soon affect the very definition of the employment contract and of the relationship between employers and employees.

2.3.2 Recognition of skills and mobility within the labour market

The transformation of occupational structures, the pace of technological innovation and certain institutional changes have been conducive to the accelerated growth of mobility

[13] Lichtenberger (1999, p.104), for example, takes up the hypotheses advanced by Suppiot (1994) and says that, even if people in stable occupations escape this dualisation of the labour market, the change in the nature of employment contracts poses them no fewer problems' The new reference value of a specific job of work, perceived as a service and not as a good, possessing social utility and value for other people besides an employer, the value of accountability, which is not about the apportionment of blame but about a stake in the struggle to overcome the risks and vicissitudes of business activity – these values are only beginning to emerge as portents of social confrontations to come.

[14] European statistics (Eurostat Labour Force Survey) for the period 1992-97 reveal that the percentage of employees with less than one year's service has generally been rising in all age categories throughout Europe and especially in the youngest age groups. The European average rose from 49% to 52% for employees under the age of 20, from 33% to 39% for the 20-24 age bracket and from 21% to 23% for those aged 25-29. It remained fairly stable in the case of employees over the age of 30, rising from 10.09% to only 10.12%.

in the labour market, although voluntary mobility will undoubtedly wane during periods of high unemployment.

At the same time, the labour market in many countries of the European Union, especially in the South, has been marked by companies' more frequent recourse to the external labour market at the expense of their own pool of labour. This tendency reflects one of the solutions adopted by businesses, along with insecure terms of employment, subcontracting, outsourcing and so on, to resolve a central problem arising from the effects of globalisation on developed economies, namely the need to reduce the wage bill for the sake of competitiveness without (excessively) reducing nominal wages for fear of provoking social unrest. One of the methods used to achieve this aim has been the reduction of the number of tiers in company hierarchies. This reduction automatically limits the promotion prospects of company employees. Moreover, the in-house labour market, which primarily serves to prevent the loss of skilled labour, entails a number of costs, which become unnecessary at a time when labour is no longer in short supply. Finally, this internal market is a long-term managerial instrument which operates on the assumption that company labour needs are constant and foreseeable. The accelerating life cycle of skills tends to diminish the expedience of such a policy.

Labour mobility in Europe is reaching levels that are comparable with those in economies which have traditionally been more open, particularly the US economy, even though the bulk of this movement between companies is occurring within the borders of individual countries (Tassinopoulos and Werner, 1998). Human-resource management is increasingly characterised by recourse to the external labour market. This implies a greater need for information about skills, both for firms and for jobseekers. The informal mechanisms for recognising skills acquired after initial education, which have historically been very closely linked to the existence of internal labour markets (Doeringer and Piore, 1971), are dwindling in importance as the balance swings in favour of the external market and as skill requirements change ever more rapidly.

In addition, major changes have been observable in the forms of employment contracts, changes designed to bring greater flexibility to employment relationships. These changes relate to key elements of the 'standard' employment contract from which most national labour rights derive. One such element is the 'permanence' of contracts. Many factors (outsourcing, subcontracting, direct labour, etc.), if not destroying these principles, contribute at the very least to restricting their impact as well as effecting profound changes in *the very nature of contractual relations between enterprises and workers* (Dupuy and Larré, 1998). Lastly, telework will no doubt further complicate the traditional relationship between employers and employees.

The identification and validation of skills used to take place for the most part within companies. The company's prolonged first-hand knowledge of its employees was, in a sense, the basis of their career development and the key to the company's efficient deployment of its human resources. The gradual demise of these forms of skill recognition, which derive their legitimacy from the internal labour market, creates a more pressing need for tangible evidence of skill at a time when the abundance of certificates held by the active population is tending to obscure the evidential value of each certificate.

Such a situation complicates the recognition of skills and the management of human resources. In fact, monitoring career development is not only a matter for companies but also concerns the organisations in their vicinity. Human resources are developed to some extent by a host of agents outside the education system – professional bodies, civic associations, etc. – some of which have no transparent and legitimised mechanisms for recognising the acquisition of skills.

At the present time there are still very few recognition systems[15] which can accommodate

[15] There are exceptions, for example the individualised monitoring of members of certain professions or the informal mechanisms which have traditionally operated or have been developed within particular economic sectors or geographical areas.

this huge wave of more numerous, more diversified and longer training processes. For the moment, it remains difficult to imagine how the transparency required for the transferability of skills acquired from a variety of sources can be achieved.

The challenge for each individual throughout his or her career is to turn to account the knowledge and skills that have been acquired informally. It must be possible to draw up an inventory of this knowledge and these skills in a form that third parties can recognise, so that such a portfolio of informal qualifications has a guaranteed market value. It is an essential record of the individual's achievement and sometimes the only record. It is also an insurance policy against the risks of downgrading and the disadvantages of a career interruption.

Having one's skill recognised and being able to market it are crucially important. Failure to do so can lead to exclusion from a market which successive new generations are flooding with a welter of paper qualifications, imperfect though they may be as skill indicators. Just as the absence of certificates is a handicap for young first-timer jobseekers, others are handicapped by the absence of explicit recognition of the skills they have acquired in the course of their working lives.

In the view of Jacques Delcourt, expressed at the AGORAII seminar, the non-validation or non-certification of training or achievement is something that particularly affects lower-skilled workers and those who have failed at school. These workers are liable to find their access to vocational training blocked because of the low level of general education they have received or, worse still, because they have no formal qualifications certifying any level of education at all. This applies especially to the older generations, who have generally received less schooling. It applies even more to young people who have come out of the education system empty-handed. There are some programmes that enable individuals to have the knowledge and skills they have obtained outside educational institutions validated with certificates that are recognised by the education system as equivalent to certain college and university entrance qualifications. These programmes, however, are generally run on a small scale and meet with stiff resistance from the educational establishment.

A more common phenomenon are the systems whereby credits awarded for work experience help to qualify applicants for access to courses of continuing vocational training and for setting up in business. This recognition of informal learning processes could rectify the paradoxical situation that exists in all European countries in which those who already have the highest qualifications benefit most from further training.

Finally, recognition of skills acquired outside the formal education system can also be an effective instrument against exclusion from the labour market and/or from further training. We are thinking here in particular of those employees who, because of their age and their occupational history, do not possess formal qualifications but are nevertheless well endowed with practical know-how.

As Marsden (1994, p.20) points out, if the qualifications associated with a job and specific to a company lose some of their appeal because employment in the internal labour markets is becoming less secure than in the past, an effective system for the recognition of acquired skills could serve as an acceptable compromise. The author proposes on the one hand that the creation of qualification systems based on skills should be supported (the success of which would depend on the establishment of an appropriate regulatory system) and on the other hand that care should be taken to ensure that appropriate incentives existed for employees to undergo training and for companies to provide training opportunities (Marsden, 1994, pp.20 and 21).

2.4 From recognition to validation of skills

The preceding paragraphs have shown that the problem posed by the conceptualisation of skills cannot be reduced to a problem of measurement. Measurement, however, is still a very real problem, for identification and knowledge depend on measurement in some

form or another. Many efforts are made, partial and imperfect though they may be, to measure skills. These efforts are one of the keys to the transparency that is required of the various subsystems of skill production as well as the labour markets.

The technical structure of the measuring instruments and the associated vocabulary may indirectly influence the perceptions of skill that are establishing themselves and the information systems that derive from these perceptions. Definitions and measurements, then, have a potential impact on the information structure of the market, on training policies and on industrial relations.

The attempts to make the market transparent by recognising individual skills involve the development of various forms of 'standardisation' and/or 'matching', which inevitably favour certain specific skills at the expense of others. They also highlight the differences between the various philosophies of education, training and work and, in more general terms, of society.

In that respect, the semantic (and statistical) debate is the tip of an iceberg comprising all the domains of education and production or, more broadly speaking, an element in a wider economic and social debate that is very much dominated by the *single philosophy of neoliberalism* (Alaluf, 1992).

If this debate remains technocratic in nature, it is liable to exclude skill, the traded asset, from the definition of the rules governing wage differentials. However, as A. d'Iribarne (1996, tr. from p.30) points out, *if the proclaimed intention to reconcile, through lifelong learning, the prospects for economic competitiveness, personal developmentand social cohesion is to have any chance of success, the actors with leading roles in the dismantlement and reconstruction processes must agree to play supporting roles.*

At the present time, considerable efforts are being made in Europe to evaluate and recognise qualifications as such, whether formal or informal, irrespective of where and how they were acquired.

These efforts are being pursued in several directions (Bjørnåvold 1997b).

- At an *individual level*, skills acquired through the 'formal' systems are evaluated by a 'diploma' (in the generic sense, i.e. any paper qualification). They are only one element of the human capital, or skills profile, of an individual and, cumulatively, of a country. Several countries are therefore in the process of introducing systems for the evaluation of qualifications and skills acquired informally with a view to measuring the available national resources of human capital, making the labour market more transparent and arriving at a more precise definition of the potential (or 'value') of that section of the labour force whose skills have mainly been acquired outside the formal systems. This is particularly important in the case of those with the fewest formal qualifications and the older age groups.

- At the *company level*, there is a gradual movement towards evaluation and stocktaking in the realm of intangible assets, including human resources. Since methods for the evaluation of intangibles are still relatively new, there is a tendency to underestimate them (OECD, 1996) in both budgetary procedures and general resource management.

- At *government level*, it is noticeable that governments have been trying to introduce new methods of quantifying public expenditure of human capital. These efforts do not seem to be having much impact on the rationale or operational structures of the education system.

The aim for governments is to initiate the creation of efficient systems to define and inventory specific skills, thereby guaranteeing the transparency of labour markets. To that end, their strategy will no doubt consist in establishing collective definition parameters with a view to laying down ground rules for skill evaluation and certification methods. This role is similar to the one played by governments in the commodity and service markets.

Recognition of skills implies the creation of a common, comprehensible and universally recognised language. That requires technical instruments for the validation of acquired skills as well as legitimisation processes.

Bjørnåvold (1997a and b) and Cedefop, 1998a, pp.189-198) enumerates the developments that are taking place and the real benefits of constructing a mechanism to measure skills acquired by informal means.

Whatever the means of acquisition and whatever the type of skill, there are two qualities that the certification system must possess: validity and legitimacy.

If the methodology of skill recognition is to be devised in a wide variety of situations and institutional contexts, it requires the establishment of common objectives and codes of practice. The pivotal priority for any methodology of this kind is to ensure that skills can be made transparent and transferable.

The methodological approaches that have been tried out are diverse and are rooted in the context of each country. A detailed analysis of the various proposals would constitute a research study in its own right (see the material produced in this domain by the Cedefop team headed by Bjørnåvold). Despite the diversity of methods, we shall identify a few common elements which can contribute to a general consideration of the issue.

In the view of Bjørnåvold (1997b), we should distinguish between two quite different methodological approaches: *those based on dialogue and guidance* (these include the French *Bilan de compétence*[16], *the British APL-NVQ*[17] *system and the Netherlands system) and those based on specialised computer systems* (such as the European skill-accreditation system (European Commission, 1996).

[16] A form of skills analysis.

[17] Accreditation of Prior Learning – National Vocational Qualifications

2.4.1 Dialogue and guidance

From a comparison of the French *Bilan de compétence*, the British APL-NVQ system and the Netherlands system, Bjørnåvold concludes that each of them uses the following four instruments in combination.

a) interviews with the person who is being assessed,

b) evaluation and diagnostics,

c) self-assessment, and

d) more or less 'conventional' examinations.

The ways in which these instruments are used in practice do not differ radically from one country to another. The analysis shows that evaluation is based on a combination of a candidate's own contribution and the formalised technical instruments. Assessors always take account of the applicant's reflections on his or her own practical experience and of the applicant's self-assessment. They neither restrict their appraisal to 'objective' performance indicators nor base their decision on subjective data or self-assessment alone.

This sort of two-track approach is a characteristic of the process of evaluating and recognising skills. The methods in use are designed to combine the individual and contextual dimensions of skill assessment. These skills are specific to the candidate, but they must be legitimate in the eyes of third parties, i.e. other employees, companies and training institutions.

As for the formal qualification (the 'certificate'), the main distinction between the different systems is that some, like the French system, certify acquired skills in a record of achievement ('*portefeuille de compétences*'), while others, like the British system, accord formal recognition by means of a certificate or diploma awarded under the system of national vocational qualifications (NVQs). In the latter case, such certificates can not only be used in the labour market but can also serve as a 'bridge' between the formal and informal training systems.

2.4.2 Specialised systems

For some years now, new computerised instruments for the evaluation of informally acquired skills have been in use. The justification for this type of approach is that such instruments reduce costs, can be extended to all types of skill and are objective. In some countries, these methods coexist with the conventional methodology described above.

Let us take the case of Ireland, for example, which is pursuing the following aims:

- to develop a specialised system enabling individuals to access information about the occupations that interest them;
- to provide individuals with easier access to assessment standards to make them aware of the demands associated with the acquisition of particular qualifications;
- to define a standardised method of compiling a record of achievement;
- to help individuals to identify more clearly the additional training they require.

At the present time, the most ambitious initiatives in this field have come from the European Union, the prime example being the European skill-accreditation system. One of the fundamental aims of this system is to offer all individuals the opportunity to have their skills assessed; the results of this assessment would then be recorded in a personal record book. The technological basis of this project comprises electronic tools which are universally accessible through the Internet.

The main difficulties of the latter type of approach lie in the obvious limitations of a procedure which is totally automated, in their European and hence multicultural dimension and, at a more fundamental level, in the difficulty of translating elements of knowledge into signals that can be evaluated.

2.4.3 Skill and legitimacy

The impact of these methods is closely connected with their legal basis and their legitimacy (OECD, 1996). The distinction between legal basis and legitimacy is pertinent, because they are not so much alternative terms as complementary factors in the efficiency of the system. The legislature cannot prescribe mechanisms for recognising and harmonising skills without having previously brokered a compromise between diverse and often divergent interests.

The introduction of totally automated solutions can only partly satisfy the need for transparency on which the recognition of knowledge and skills is based. To be suitable, according to Bjørnåvold (1997b), solutions must take account of the social dimension of the methods they involve and must focus explicitly on the issues of acceptability and legitimacy. One strategy is to devote very close attention to the legitimacy of the institutions responsible for validation.

To be legitimate, institutions must satisfy at least three conditions (Bjørnåvold, 1997b, p. 77).

a) All the players involved must be consulted and must make their positions clear.

b) Relevant and useful information must always be common knowledge.

c) A consensus must be reached, and sanctions must be available to deal with abuses.

The policy of skill validation that is being defined will inevitably have far-reaching effects on the development of the education and training systems. It will also have an impact on all the systems of industrial relations. It must therefore be examined and evaluated from both of these perspectives.

2.5 Conclusions

As we have seen, the shift from qualifications to skills is emerging as an undercurrent, caused on the one hand by changes in production deriving from the development processes which we highlighted in the introduction (Chapter 1) and with which we shall deal in greater detail in the next chapter (Chapter 3) and on the other hand by changes in the processes whereby human capital is created within individuals.

From this, we conclude that the skill of the individual, in other words the sum total of the specific characteristics which determine his or her productive capacity in a given context, is becoming the tradeable asset in the labour market.

The vectorial quality of skills means that the process by which they are produced necessarily involves co-production by a variety of agents, a process governed by the interchangeability of their components and not by any rigidly prescribed procedure.

This change, however, is not solely a change in the technical aspects of the production process. It is occurring in a wider framework of equally profound changes in industrial relations, in the very substance of employment contracts and in the role and place of education and training systems in the production of human capital.

The changes that are taking place also require more refined information systems which are able, on the one hand, to appreciate the specific nature of individual skills, irrespective of the conditions in which they were acquired, yet equally capable, on the other hand, of constructing an information system that is sufficiently standardised and transparent to manage human resources; such management must be based on increasing mobility of labour as well as on individual career development and the principle of lifelong learning.

These information systems on human skills are already being created in various countries in an uncoordinated manner, each system taking account of specific national circumstances. They naturally tend to be more refined than systems based on formal qualifications. Be that as it may, they remain imperfect, as Marsden comments when he writes of these new 'skill-based qualification systems', which coexist with the older systems. To aim for complete transparency of individual skill levels in the labour market would, as Eymard-Duvernay and Marchal (1997) point out, be illusory. The measurement and validation of skills is developing with a wide margin of tolerance, determined by the coordinates that society has plotted in any given context.

The definition of the concept of skills itself, the instruments for measuring them, the certification mechanisms and the processes by which these systems are legitimised necessarily imply a change in the ground rules, since the various participating players defend interests which are often conflicting. Thus the definition of the operational concept of skills will not be the result of scientific analyses but rather of a 'collective interpretation', which will take account of the more or less informal balance of power that exists between business, labour and government and of the social context in which they operate.

3. Skill levels, individual skills and demand for labour

The traditional model of the relationship between formal training and employment to which we have referred in the foregoing chapters assigns a leading role to the demand for labour in the development of skill levels within an economy.

For the proponents of the manpower approach, the mere observation of a fluctuation in global output translates into a shift in the level of demand for skilled labour. They infer directly from this that education systems should adjust their output levels.

The theoreticians of endogenous growth have noted that the production system increases its productivity when it employs more highly skilled labour. They therefore ascribe these gains to higher public investment in explicit training.

Both of these groups believe that analysis of the demand for labour in relation to the production of goods and services and economic growth has – or should have – direct repercussions on the output of education systems and, moreover, on the quantitative and qualitative equilibrium of the labour market.

The present chapter, which is devoted to a study of the influence of technological and organisational innovations on the demand for and the use of manpower, is written from a

771

different perspective to that of the traditional model.

We have adopted a non-determinist position with regard to technology and the innovation process. In other words, we do not regard technology as an independent variable that is solely responsible *per se* for its effects on the various elements of the production process and on the management of human resources. On the contrary, without denying the importance of technological innovation, we postulate that its influence is conditioned by factors inside and outside the enterprise itself, prominent among which are management strategies and objectives.

Be that as it may, we shall analyse the influence of technological progress and organisational change on the demand for qualifications (Section 3.1) and skills (Section 3.2), but we shall also try to identify the contextual elements that do most to strengthen these influences.

We shall organise the body of literature analysed in this chapter into two categories based on two fairly distinct schools of thought.

The first school essentially reasons in terms of labour along the lines of classical macroeconomics. It does not differentiate much between types of manpower, generally confining itself to a distinction between skilled and unskilled labour. Within this framework, the influence of technological progress, organisational changes and institutional constraints is analysed.

The second school of thought comprises those authors who are more explicit in addressing the heterogeneous nature of the manpower factor and adopt an approach based more or less directly on the concept of skill. Their aim is to understand how the market absorbs variations in the demand for specific skills, variations caused not only by growth or fluctuating production levels but also by technological progress and organisational change, without necessarily resorting to adaptation of the system of basic formal education or even of continuing vocational training.

3.1 From techno-economic development to a skilled labour force

The eighties were marked by a widening of the gap between skilled and unskilled workers in most developed countries. This was primarily reflected in a comparative loss of status for low-skilled workers, whose relative pay levels and/or employment prospects deteriorated.

The impact of technological and organisational innovation on employment is the subject of widespread polemics, in which two broad sets of questions have been raised: one of these relates to the *volume* of employment and the other to its *characteristics*. The analysis of the development of demand for skilled labour serves as a framework in which these two types of question can be addressed.

Many empirical studies discuss the various factors that can contribute to a fall in demand for unskilled labour. It is a matter of unbalanced technological progress (Berman et al., 1994; Entorf and Kramarz, 1994) but also of fiercer competition with countries where pay levels are low (Wood, 1994; Sachs and Shatz, 1994; Bonnaz et al., 1994) or of changes in the structure of trade in goods (Krugman and Lawrence, 1993) and of the changing sectoral balance of employment (Berman, Bound and Griliches, 1994). The findings of these studies generally indicate that the fall in the percentage of low-skilled workers is not simply linked to the decline of those sectors of the economy which chiefly employ that type of labour. This reinforces the hypothesis that technological progress pays a leading and *direct* role in the significant loss of low-skilled jobs. Most of the studies conducted in the English-speaking world only hold international trade responsible for 15 to 50% of the fall in demand for unskilled labour[18] while emphasising the role of technological progress (Bound and Johnson, 1992; Borjas, Freeman

[18] These conclusions, however, are not unanimously accepted, particularly because they do not take account of the relative development of pay levels in the various sectors of the economy and the role of wage flexibility as a strategy used by businesses to adapt to international competition.

772

Table 1: The main factors affecting skilled and unskilled labour in economic theory

	Relative volume of jobs for UL	Relative pay levels for UL	Relative price of UL-intensive goods	Real wages for UL	Real wages for SL	UL unemployment rate
Unbalanced technological progress	-	-	-	?	+	+
Freer trade with developing countries	-	-	-	-	+	+
Increase in the minimum wage	-	-	-	+	+	+
Increase in the supply of skilled labour	+	+	+	+	-	-
Greater wage flexibility	+	-	-	-	+	-
Empirical findings:						
Continental Europe	-	?	-	+	+	+
United States	-	-	-	-	+	0

UL: unskilled labour; SL: skilled labour
Source: Cotis, Germain and Quinet, 1997.

and Katz, 1991; Krugman and Lawrence, 1993; Katz and Murphy, 1991; Lawrence and Slaughter, 1993; Berman, Bound and Griliches, 1994).

Four types of factor are generally cited to explain the fall in demand for unskilled labour:

a) macroeconomic shocks;

b) accelerated involvement in international trade;

c) institutional pressure on the labour market; and,

d) technical and organisational changes.

These factors can act on the labour market in different ways and can take different forms in different countries (see Table 1 below). We have chosen to focus on the influence of the last-named factor, technical and organisational changes. Most empirical studies, especially in the English-speaking world, assign a principal role to these changes in explaining the fall in demand for unskilled labour. In most cases they stress the role of the disequilibrium of technological progress (Cotis, Germain and Quinet, 1997). Whereas technological progress used to be regarded as a source of deskilling, the advent of the new forms of information technology have altered this assessment. It has become the ally of skilled labour, usurping the role of unskilled labour.

3.1.1 Technological progress and demand for skilled labour

If we take a more detailed look at the literature on the technological progress of recent decades, the relationship between such progress and the demand for skilled labour frequenty emerges as an extremely complex one and depends on the level of observation adopted by the researcher (Spenner, 1985). In general terms, there are two opposing ideas:

1. The use of technology creates new occupations (Nelson and Phelps, 1966), which sometimes necessitate higher skill levels within the workforce as the production process becomes more complex. This only

773

applies, however, when the technology in question mobilises other forms of technical capital to *supplement* education. Welch (1970) was one of the first to demonstrate a complementary relationship between the value of education and investment in technology.

2. As new technologies emerge, the degree of automation is sometimes so high that it becomes possible to entrust production tasks to less skilled employees. Technology may be the basis of an investment that serves as a *substitute* for education: human skills are replaced by the capacities that machinery and software can provide.

These two ideas proceed from different assessments of the complementary relationship between skill levels and physical capital. Most of the empirical studies (Griliches, 1969; Hamermesh, 1993; Dormont, 1995) tend to suggest that capital and skilled labour are *p*-complementary,[19] whereas unskilled labour is a *p*-substitute for both capital and skilled labour. These studies keep emphasising that the most highly educated employees have a comparative advantage when it comes to learning about and applying new technology. General education fosters an ability to cope with the unknown and strengthens the adaptability of an enterprise, which justifies the payment of salary premiums to university and college graduates (Murphy and Welch, 1989). Bartel and Lichtenberger (1987), on the other hand, defend the idea that the degree of complementarity between skilled labour and capital depends on the average age of the capital. Recently acquired machinery calls for the provision of a specific course of explicit training. But as time passes, this gives way to a less formal *learning process* based on the use of labour with lower levels of initial education. Technology therefore demands different types of labour at different times.

In fact, the use of new technology by the least-skilled category of labour is often very difficult to analyse. Technology can hasten general downgrading of the workforce by simplifying their tasks or, conversely, it can significantly upgrade the workforce by presenting additional training opportunities.

According to one interpretation, the 'technological experience' is a factor which standardises jobs through the mechanisation or automation of tasks. This probably happens whenever a given physical investment is widely made within an industry, requiring the same skill profile and therefore generating a supply of labour with the appropriate skills. In this case, the jobs concerned are unlikely to involve a variety of tasks, and so they become standardised. This ultimately reduces the development and career prospects of the lowest-skilled workers.

The second interpretation, by contrast, sees technology as a means of access to jobs and training for low-skilled and unskilled labour. It is in fact possible to use the least educated employees in the new roles resulting from technological innovation. This idea seems to be confirmed by the findings of Bartel and Sicherman (1995), who based their research on the data from the National Longitudinal Survey of Youth relating to the industrial sector for the years 1987 to 1992. They observed that the higher an individual's education level, the better were his or her chances of obtaining training within a company, but they particularly noted that technological progress lessened this impact of education on training. This finding also seems to be consistent with the logic of those companies which use further training to give their least-qualified employees the opportunity to work with new technology. As Bartel and Sicherman (1995, p.13) put it, *thus it appears that technological change has acted to reduce the gap in the stocks of human capital accumulated by different education groups through formal company training*. Lastly, Levin and Rumberger (1989), referring to numerous studies conducted in the United States over the previ-

[19] Capital and skilled labour are said to be *p*-complementary if, at a constant production level, a rise in the relative price of capital results in a fall in the relative use of skilled labour.
Unskilled labour is said to be a *p*-substitute for capital (or skilled labour) if, at a constant production level, a rise in the relative price of capital (or of skilled labour) results in an increase in the relative use of unskilled labour.

ous decade, concluded that some factors (particularly the shift in the balance of employment towards the service sector) would increase global demand for skilled labour, while others, such as the introduction of new state-of-the-art technology, could contribute to deskilling of some jobs at the very least.

In France, Goux and Maurin (1995a) show that the introduction of robots or digitally controlled machinery seems to reduce the need for managerial staff to a greater extent than it reduces demand for white- and blue-collar workers, who are still required to look after the new machinery. In terms of the whole French population, they observe a capital-for-labour substitution effect resulting from technological progress, but this effect does not generate any impetus in favour of educationally qualified labour.[20] The more recent findings of Greenan et al. (1999), based on company data, suggest the opposite, indicating a significant degree of correlation between computerisation and higher skill levels; these results compare with those obtained on the basis of American statistics by Bernt et al. (1992) and by Autor et al. (1997). All of these research findings show that *the percentage of blue-collar workers in industrial and service companies, as well as of white-collar workers in non-managerial posts in service enterprises, decreases as the companies' degree of computerisation and their input in terms of research and studies increase* (Greenan et al., 1999, p.427).

The possibility of an initial selection bias, whereby companies select from the certificated applicants for each job category those considered most likely to maximise the benefits of the relevant new equipment, has been studied, but such a bias would not alter these findings. Nevertheless, a French study based on data from individuals tends to validate this selection hypothesis. Entorf and Kramatz (1994) concluded that the selective effect of new technology is probably accompanied by the exclusion of part of the workforce. Gollac and Kramatz (1997), however, demonstrate[21] that the workers who operate the new technology are protected from the risk of unemployment in the short term.

Even though the generally accepted rule concerning the role of capital as a complement to skilled labour and a substitute for unskilled labour seems to be fairly sound, it is observable that the links between technological progress and types of labour are still the subject of a broad empirical debate. This debate still seems to have a long way to run, because it is very plain in the case in point that the empirical results are difficult to reduce to a common denominator and that they are affected by research methods (Castaño Collado, 1994).

3.1.2 Organisation change and demand for skilled labour

Has the transition from a Fordist system of work organisation to a more flexible system altered the nature of companies' demand for skilled labour? In general terms, technological innovations and the increase in physical and human capital have played a key role in the transformation of the Taylorist system (Milgrom and Robert, 1990; Boyer, 1994). The organisational structure of companies is changing and is being reorganised around teams that are more directly linked to central management.

This transition encourages versatility and decision-making by the workforce, even in the absence of technological innovations (Lindbeck and Snower, 1996). Alongside the appearance of new types of technology, the diversification of demand has also undermined the principles of Taylorism and Fordism (Stankiewicz, 1988).

[20] What they say is this: *If we except the traditional (but tenuous) links between the accumulation of capital and the number of specialised and managerial posts, the net effect of the new technologies on the development of employment structures seems at the end of the day to have played a less important role in France than the increase in the supply of workers with educational qualifications and the decrease in their relative pay levels* (tr. from Goux and Martin, 1995a, p.31).

[21] Their research is based on the 1993 survey of working methods and organisation among blue-collar employees.

775

According to one radical view, the establishment of new production facilities is accompanied by a redefinition, and possibly even demolition, of the boundaries between the constituent tasks of standardised jobs. The new equipment takes care of some of the tasks for which employees with specific know-how have hitherto been required (Freyssinet, 1977). The simplification of jobs is reflected in the downgrading of those who perform them (skilled workers, ledger clerks, etc.) and reduces the opportunities for on-the-job training by eliminating the need to learn.

The Taylorist model is based on the standardisation of jobs. It boils down to a rationalisation of labour, characterised by minimal product diversity, sharp horizontal division of labour (and hence a vertical flow of information) and little flexibility of capital (as well as copious stocks). Tasks are split up, and each individual operation is optimised, which leaves little scope for general or specialised training. In the first half of the twentieth century (especially in the United States), the spread of this type of work organisation enabled companies to bring in workers who had little education or training but who were quickly able to achieve a prescribed level of productivity in the performance of 'scientifically organised' tasks.

Alternative organisational models take account of the contribution that training makes to human behaviour in a more satisfying working environment. Investments in training are again being seen as a more abstract form of rationalisation, relating less directly to productive acts, which in turn are less precisely defined, than to a set of practices and behaviour patterns that are required in order to create and maintain a flexibile process and cohesive operational teams.

In some industries (the car, machine-tool and chemical industries) where state-of-the-art technology is in use, neither the market nor the product warrant rationalisation along Taylorist lines. Kern and Schumann (1989) note that the introduction of new technology in German industry has been accompanied by a diversification of job descriptions and the broad use of the skills of a limited number of workers (line operators in the car industry, installation operators in the chemical industry and system managers in the machine-tool industry). Decision-making is devolved to the shop floor in response to a situation in which customised manufacture is becoming essential. Versatility as a principle of work organisation, however, is liable to create a new type of segmentation of the labour market, both within and between companies (Caroli, Greenan and Guellec, 1997).

Some empirical studies in France have identified links between the development of demand for skilled labour and organisational change in companies, although they do emphasise the complexity of the correlation. Greenan and Guellec (1994), in a study based on French industrial firms,[22] highlight the existence of a significant link between work organisation, technology and the skill level of the workforce. Companies in which communication is most intensive are also those with the highest-skilled workforces and those which use the most up-to-date automated equipment. On the basis of data from British and French companies, Caroli and Van Reenen (1998) reach a similar conclusion, identifying a positive correlation between the probability of organisational change within an enterprise and the proportion of certificated employees in that enterprise. A study by Greenan (1996a),[23] however, shows that the effect of change on the demand for skilled labour varies in accordance with the nature of the innovation in question. If it is an organisational innovation, it influences the employment structure by shifting the balance between skilled and unskilled labour, which sometimes results in a reduction in the overall payroll. Companies

[22] Two surveys were used for this study: the working methods and organisation survey of 1500 manual workers conducted by INSEE (Institut national de la statistique et des Etudes Economiques - National institute for statistics and economic studies) in 1987, and the innovation survey, involving 7,000 enterprises, which INSEE conducted in 1991.

[23] We refer here to the survey on organisational change conducted from 1988 to 1993 by the SESSI (Services des statisques industrielles - Service for Studies on Industrial Strategies and Statistics) with a sample of 822 businesses.

that have opted to move towards a 'flexible' form of organisation[24] will increase their proportion of skilled labour without increasing the size of their workforce. For blue-collar workers, the organisational change means a wider range of tasks within a single job. Technological innovation, on the other hand, leads to fewer job cuts and is less drastic in its impact on employment than organisational change. Technological innovation does not affect the company's skill structure. However, such innovation is made by companies with a specific skill structure.

So according to the various studies, significant links do exist between organisational change and the skill level of a company's workforce, although these links are generally quite difficult to analyse. Like technological progress, organisational change seems to lead to an upgrading of the workforce, but there again empirical findings often depend on the level of observation adopted by the researcher. Moreover, many factors associated to a greater or lesser extent with technological progress or organisational change influence relative demand for unskilled labour. For example, a relative abundance of formally qualified labour combined with rigid real wages will be conducive to the substitution of qualified labour for unqualified labour, even if such a substitution is neither technically nor organisationally essential. This hypothesis has more adherents in Western Europe than in the United States, where human capital has become more expensive as well as being in greater demand than hitherto (Levy and Murname, 1992). It rekindles the question of a possible trade-off between pay inequalities and the risk of unemployment (Cahuc and Zylberberg, 1996; Cahuc et al., 1999) and triggers debates on the influence of the minimum wage and of compulsory employers' welfare contributions on the cost of unskilled labour.[25]

3.2 From labour to skill: what about the role of demand?

In the previous subsection, we showed that demand had an impact on skill levels, which were implicitly assimilated in most of the studies to formal qualifications (or, worse still, with the duration of a person's formal education). Let us now consider what impact demand could have if the system operated on the basis of practical skills. Have the gradual erosion of Fordist organisation and the influence of new technology on the production process actually changed the nature of the skills that companies demand? If they have, to what extent has the development of the nature of these skills altered the relationship between the education system and the production system?

Understanding the problem of technological progress in terms of skills as defined in Chapter 2 not only enables us to return to a more refined view of labour as a heterogeneous production factor than is presented in the simple dichotomy of skilled and unskilled labour but also lets us take account of the demand for labour without automatically assimilating skill with possession of the ability to perform one specific job or with a person's level of educational attainment. This change of position to embrace the idea of skill as a vector enables us to appreciate more clearly the impact on the labour market of technological progress, as Bouadballah et al. emphasise: *The problem of heterogeneity of labour is not only rooted in educational investment or in the origins of individuals but also within the enterprise itself, where it is a function of the division of labour adopted by the company... Ideally, the definition of the skill level required by an enterprise or an industry could be based on a harmonisation model reflecting the numerous dimensions of the tasks that employ-*

[24] In the sense of Aoki's '*Model J*'.

[25] From this perspective, the hypotheses that technological progress destroys unskilled labour and that the relative cost of unskilled labour is too high have influenced the debate on the minimum wage (Dolado et al., 1996; Abowd et al., 1997; CSERC [Conseil supérieure de l'emploi,des revenus et des coûts - National council for employment, income and costs], 1999) and on the role of compulsory non-wage labour charges (Dreze and Malinvaud, 1994; Sneessens and Shadma-Mehta, 1995). The institutional constraints that affect the cost of labour in general and of unskilled labour in particular have accelerated the substitution of capital for labour and, by transitivity, the substitution of skilled labour for unskilled.

Table 2 – Skill development and company strategies

Nature of development	Conditions of skill development	
	Before the event *Ex ante*	As it happens *In situ*
Entirely foreseeable	Scenario 1	Scenario 4
Probable	Scenario 2	Scenario 5
Unforeseeable	Scenario 3	Scenario 6

Source: Léné (1998).

ees are performing at any given time (Bouadballah et al., 1999, p.197).

3.2.1 Skills and technological progress

Abandoning the 'match/mismatch' approach, let us consider the skills that workers require in order to adapt to technological and organisational changes. Several types of skill can help a worker to adapt to an environment which is developing as a result of significant and relatively frequent technological progress.

Let us consider first of all how a company can be induced to develop these skills in an environment that has been destabilised by factors such as technological progress. In this type of unstable environment, it is in the company's interests to define a genuine manpower-management strategy that will minimise the cost of adaptation. On the basis of the analytical framework proposed by Léné (1998), two types of strategy are conceivable.

a) The firm may seek to reduce the risk of failure to adapt by trying to anticipate future developments and by broadening the skills of its employees 'before the event'.

b) The company may develop its employees' adaptability *in situ* by working on their response to developments as they happen in order to reduce the amount of time and money required for the adaptation process.

Which of these two strategies is chosen will depend on the nature of the future change and the extent to which it is foreseeable.

In Scenario 1, the company need only teach its employees the skills that will serve its purposes in the period to come. The firm only has to pay training costs but does not incur any adaptation or opportunity costs, because it entirely foresees the changes. This textbook case, however, does not translate into practice. In this matter, more than in any other, the idea of perfect information is an illusion.

In Scenario 2, the firm is now unable to foresee the exact nature of the required skills and takes precautions to ensure that it is not overtaken by events. The diversification of the employees' initial skills is one way of reducing the cost of adaptation. As is done with an investment portfolio, the company diversifies its assets to guard against the risk of failure to adapt to changes.

In Scenarios 3, 4, 5 and 6, the nature of the company's work is such that it cannot anticipate its skill requirements because of unexpected extraneous events, such as the appearance of a new form of technology. Its only possible strategy is to develop the adaptability of the workforce. The quest for flexibility involves the achievement of greater versatility, the ability to respond more rapidly to the promptings of the market or to technological developments.

This can be done at four different levels (Léné, 1998):

a) increasing the learning capacity of an employee, for example by reducing in regular stages the discrepancy between the skills required for a post and the skill of the incumbent;

b) providing a series of learning experiences; this succession of experiences increases the productivity of the training process by

Box 2: Skills and new technology in the United States

On the basis of a study of the relationship between skill requirements and technology in the United States, Levin and Rumberger (1989) put forward a list of 13 skills that determined an employee's adaptability to new forms of technology and work organisation:[27]

1. initiative and dynamism
2. cooperation
3. teamwork
4. ability and willingness to teach and learn from colleagues
5. evaluation
6. communication (good use of communication channels)
7. reasoning
8. identification and resolution of problems
9. decision-making
10. acquisition and use of information
11. planning and establishment of aims and priorities
12. knowing how to learn (cognitive and emotional qualities)
13. openness to multiculturalism

means of gateway effects ('learning by learning' – Stiglitz [1987]);

c) increasing the transferability of learning outcomes; interdisciplinary skills are the foundation stones of a diversified economy, and complementary learning processes are reflected in shared production savings;

d) encouraging the 'learning company' (Amadieu and Cadin, 1996) and the development of cognitive skills, which require diversified activities, cooperation and functions which are not rigidly compartmentalised.

Adaptability is called for here in changing conditions of production and is identifiable, for example, in some of the phenomena we have described, such as *functional mobility*. It may require more knowledge, and hence more training, in cases where tasks are quite highly differentiated and possess a certain degree of complexity. Nevertheless, in general terms, adaptability tends to imply a more behavioural set of skills, which can be acquired in the course of socialisation processes (Castillo, 1988). It is a matter, in other words, of demonstrating adaptability when the work process itself demands only a very low level of training. The term 'adaptability' therefore relates to the temporary – or generally insecure – nature of employment and describes the non-voluntary performance of a variety of tasks and duties.

It is clear from this context that enlisting the help of the education system in the quest for adaptability is not necessarily the most rational or the commonest strategy for companies to pursue, especially when we consider the time it takes to produce skills.[26]

At a more macroeconomic level, the analysis undertaken by Bishop (1998) on the basis of American data also indicates that the rise in the level of education in general and of initial education in particular does not necessarily meet the needs of a production system in the throes of a radical transformation. Moreover, Levin and Rumberger (1989) state that the level of qualification (i.e. formal qualifications) demanded by the labour market will not alter appreciably in the near future. *What is more likely to alter, on the other hand, are*

[26] On this point, see chapter 4 of the present report.

[27] In the view of Levin and Rumberger, these skills should not replace the traditional knowledge and techniques that workers are expected to possess and practise but must supplement them.

779

the types of qualification that will be needed as new technology and *new forms of work organisation demand different types of aptitude* (communication and reasoning skills, for instance). In the case of young people's education, the main aim, say Levin and Rumberger, is to provide *not so much the level of instruction as the type of education* that workers will need. The school system must prepare the future labour force to adapt to change rather than simply teaching them what they would need to work in a posulated stable environment (see Box 2).

In even more general terms, Howel and Wolff (1992) conclude that the emphasis is gradually shifting from motor skills (manual dexterity and physical strength) to cognitive skills (ability to interact with others and management skills).

3.2.2 Skills and organisational changes

The emergence of new models of work organisation is leading to the transformation of people's skill profiles. Numerous studies seem to show that the old definition of needs, based on a uniform body of knowledge, remains necessary but is no longer sufficient. Veltz and Zarifian, for example, consider that *the skill profiles of people and organisations, of course, are still defined by reference to specialised knowledge, but they increasingly include the ability to apply that knowledge to specific situations and chains of events. Maintaining equipment, for example, implies the ability to react to breakdowns but also the ability to foresee them...* (Veltz and Zarifian, 1993, p.19). The skill profile associated with a particular job is based on an exhaustive description of an employee's duties and hence of the knowledge he or she must be able to apply; this is a legacy of the Fordist model of the division of labour. Educational qualifications were never enough to equip employees for their job, even if that job only comprised standardised tasks, but they did go at least part of the way[28] to matching an accumulated body of knowledge with a set of relatively foreseeable and standardised job requirements. Individual skill, on the other hand, depends more on versatility and the ability to respond to new situations.

Let us examine, for example, the organisation of work in the Japanese firm *'Model J'* presented by Aoki (1990) and based on versatility and decentralisation of information, which seems to correspond to the 'holistic firm' described by Lindbeck and Snower (1996). The useful skills in companies of this type are the ability to process information, to solve problems and to adapt to the physical, and particularly the human, environment through understanding and cooperation between colleagues. However, although there is a wealth of human capital in Japan, the acquisition of the individual and collective skills on which the success of *'Model J'* depends is based on the internal market (Inohara, 1991) and not only on the performance of the education systems.

Technological progress and organisational change, moreover, are very closely bound up in the development of these individual skills. In Europe and the United States, the 1980s saw the emergence of research into the qualities that were required following the introduction of new technology (Adler, 1987) and into changes in systems of work organisation. In this context, skill (Table 3) seems to be a vector, the points in which are responsibility, expertise, interdependence and training. Office work, where computerisation has necessitated an upgrading of skills and job descriptions,[29] is a prime example of this phenomenon.

Explicit training, however, is not the natural response to the development of this skill profile, whether in industry or the service sector. Jones and Wood (1984) cite the example of the introduction of new electronic

[28] Other considerations were involved, particulary for unskilled labour, such as the unique code of conduct and morality on which the Ford Motor Company based its recruitment and wages policies.

[29] This upgrading of skills includes attendance at formal educational courses in subjects such as banking systems to supplement on-the-job training, daily practice in teamwork, constant efforts to improve one's own aptitude and to familiarise oneself with new services, etc.

780

Table 3: Old and new skill profiles

Skill factors	Old profile	New profile
Responsibility	Based on conduct (effort, discipline)	Based on initiative (maintaining the continuity of the process)
Expertise	Linked to experience (manual dexterity or routine)	Cognitive (identifying and solving problems)
Interdependence	Sequential (only with colleagues at the immediately previous and subsequent stage of the production chain)	System-based (teamwork and interdependence of functions and levels of command)
Training	Acquired once and for all	Lifelong learning (frequently updated)

Source: Adler, 1987.

technology in a transmission-systems plant, necessitating the use of tacit specialised knowledge that the machine operators possessed. This knowledge, which they had acquired through experience, enabled the company to effect the transition to the new production methods without having to provide special training.

In France, in a study on manufacturing industry,[30] Greenan (1996b) shows that the links between skills and work organisation will depend primarily on the type of company. The 'flexible' firm, for example, is characterised by development of the skills of all categories of labour, which goes hand in hand with an increase in employees' responsibilities, a reduction in the number of tiers within the hierarchy and the creation of operational teams. In other enterprises, organisational change affects only some of the firm's employees and has little impact on skill development.

For our part, we wish to emphasise the fundamental role of the players involved in a process of change in determining how that change is implemented. In practice, the strategies adopted by the management and by the staff and their representatives determine the pace and intensity of the technological innovation, the way in which it is implemented and its impact. According to Lope, Miguélez et Ros (1992, p. 52), the will of the company is the main determinant of the characteristics of technological innovation.

At the end of the day, even within a single enterprise, various forms of skill management will establish themselves (Lope 1994). Company strategies mirror the segmentation of the labour market. For example, the various groups of employees benefit to varying extents from the training provided by companies (Cedefop, 1997b). In general, training programmes connected with technological or organisational innovations and with policies designed to promote worker participation are administered in a selective manner. Training is segmented on the basis of quantity and quality criteria and is targeted at strategic groups of employees within the enterprise while neglecting others. In this respect, it seems appropriate to distinguish between the *core* of a company and its *periphery* in the context of human-resources management and to postulate a tendency to polarise the two.

Other factors besides industrial relations influence decisions on technological and organisational innovation. Working conditions and

[30] SESSI survey on organisational change from 1988 to 1993, based on a sample of 1496 businesses.

781

the characteristics of the market in which the company operates cannot be ignored.

3.3 Conclusions

Let us say in conclusion that our aim in this chapter has been to show the way in which the problems of general skill levels and individual skills have been related to the development of demand in the labour market. We have sought to discover whether changes in demand really have created a new need in terms of skill levels and, if so, what the nature of that new requirement is, given that a person's skill level, or qualification in the wider sense, is no longer considered as a homogeneous entity that can be assimilated to his or her level of educational attainment.

The findings of the various studies underline the complexity of the link between technological and organisational changes on the one hand and the demand for skills on the other. It is clear that companies will try to avail itself of manpower with the highest possible average level of competence and, above all, with the greatest capacity for rapid adaptation of its skills to a market dominated by increasingly short-term planning.

The most generally accepted conclusion on the impact of innovative processes is that their relationship with skilled labour is complementary; the transition from the perception of skill as qualification for a job to that of skill as general competence redefines the nature of the relationship between the process of innovation and productive capacity.

Skills are not homogeneous, and their usefulness depends on their being practised in real working situations. However, in a context of changing circumstances within the production system, adaptability emerges as a key skill.

On the one hand, *adaptability* (or the ability to deal effectively with unfamiliar and unexpected situations) is based on the *transversality* and *transferability* of skills. On the other hand, it constitutes the basis of their *durability* in the context of the current innovative processes and of the diversity of forms of human-resources management that these processes entail.

It is far from certain that companies, with the aim of ensuring that highly adaptable individuals are on their payroll, will choose a strategy based entirely – or even principally – on recourse to the formal systems of education and training.

4. The skills market and its regulation

We have briefly outlined the value of the concept of skills as an instrument for analysing the labour market. We have also provided a rapid review of the interaction between the main thrust of economic development and the redefinition of the demand for labour. We have explicitly advanced the hypothesis that the good which is traded in the market is neither labour as an amorphous entity nor a form of qualification that is synonymous with the product of purely explicit training. We have assumed that the traded item is the skill profile of the individual, in other words a set of characteristics which are specific to the individual and which govern his or her productive capacity in a given context.

We shall now try to use this view of things to analyse the procedures by which skills are traded in the marketplace. To that end we shall try to identify the structural reasons which lead to difficulties in matching available skills with required skills. We shall then consider how the market maintains a balance in spite of the discrepancy between the horizons of suppliers and demanders. That will lead us on to propose a new definition of mismatches and a way of analysing the methods used to resolve them. We shall examine more specifically the consequences of our analysis for education and training systems and for their regulation and their ambitions.

4.1 The discrepancy between temporal horizons

The question of qualification or skill requirements elicits different answers, depending on the temporal horizon within which it is asked.

The answer to the question is fundamentally diachronic, as are any mismatches between supply and demand for qualifications. The effect of the changes that are taking place in connection with the globalisation process is that decisions relating to the production, circulation and accumulation of capital are governed by short-term priorities, whereas decisions relating to human and social reproduction demand a long-term, or indeed ultra-long-term, perspective (Vinokur, 1999).

In the relationship between the supply of skills and demand for skills, time plays a wide variety of roles. Time features as the period required for the acquisition of skills and as their useful lifespan; it is used to define the horizons of forward planning and hence as a unit of economic measurement. If we are to define these roles more precisely, it would seem useful to distinguish between the two groups of players (individuals and enterprises) in order to highlight the incompatibility of the time frames in which their respective economic calculations are performed.

4.1.1 Formal education and the origin of skills: the temporal dimension of supply

So that we can more clearly understand the temporal dimension of supply and of the consumption of skills, we must first identify the various aspects of a skill in terms of the most probable time and place of acquisition, its place in the structure of all individual skills and its lifespan.

Skills are not isotropic, nor do they endure for the same length of time or become obsolete simultaneously. But categorising skills in isolation, outside the context of their application, is a difficult task and demands a formidably rigorous approach. At the same time, it is obvious that skills do not all possess the same quality or the same productive and social value, either for individuals who are developing their 'human capital' or for companies when they recruit new staff.

A number of skills are accorded the status of 'prerequisites' and are of an 'irreversible' character; this is the case, for example, with the skills that relate to communication or access to information; other skills, however, are more easily 'renewable', subject to certain conditions. We should emphasise the 'long life' of the first set of skills, which derives from the fact that they form a framework for subsequent learning processes and/or from their transferability (a prime asset in a rapidly changing world), as well as the broad range of contexts to which they are applicable.

In the context of numerous efforts to distinguish these skills from other skills of a cyclical nature, they have been given names such as 'key skills', 'core competences', 'transverse skills' and more besides.

So it is possible to distinguish, albeit rather schematically, 'framework' skills (which normally have a long lifespan), 'transverse' skills (which can be used in a wide range of situations) and 'specific/cyclical' skills. A further breakdown of these skills into personal, social and productive uses is difficult and probably serves no purpose.

Most training activities impart each type of skill, but the various forms of training and the institutions which provide them are of a specialised character and are essentially designed to create skills of a specific type; schools, for example, aim – or certainly should aim – to impart 'framework' and 'transverse' skills, whereas institutions which provide further training endeavour primarily to teach 'specific/cyclical' skills. In-house company training, for its part, imparts skills connected with teamwork, the use of specific technology and company organisation.

4.1.1.1 Skills and the individual's horizon

Time has two functions in relation to the skills of an individual: the first is the period spent learning a skill, which usually coincides with part of the initial education process or further training, be it implicit or explicit, in-service or outside the work context, and the second is the period spent using one's acquired skills.

The time spent acquiring skills comprises the period spent in general education and *initial*

vocational training and the time devoted to training during one's working life. Since individuals sometimes work during their initial education (cf. Béduwé et al., 1999; Planas 1999), a clearer definition of terms would be desirable, and perhaps a distinction ought also to be made between framework training courses, as in the initial education process, and adaptation courses, advanced training and occupational retraining, which build on the original framework.

The time taken to produce qualifications is tending to increase. First of all, initial education is becoming longer, either because the period of compulsory education is being extended by law or because continuation in education beyond the minimum school-leaving age is becoming increasingly important in practice. In addition, the time taken to produce the skills connected with framework training is also increasing as a consequence of the strategic choices made by individuals.

Initial education, moreover, is irreversible for at least two reasons. On the one hand, such a long period of full-time education would be impossible to repeat in a person's lifetime. On the other hand, we are only young once, and the customary time for initial education is when individuals are at their most malleable, both mentally and physically, which reinforces the irreversibility of the initial education process.

This extension, be it compulsory or otherwise, of the initial education period helps to establish its irreversibility; this is not to say that it is less adjustable but rather that it is firmer and more adaptable and opens more doors to lifelong learning (Cedefop, 1997b; Planas, 1990 and 1996). When young people receive their initial education, they naturally have long-term strategies, since they are aware that investments in this education process form the basis of their future social and professional status (A. and P. D'Iribarne, 1993), and/or of their prospects of obtaining further training. The maximum time horizon to which these young people's educational decisions relate will necessarily coincide with the envisaged duration of their active lives.

The time frame within which young people expect – and the society in which they live expects them – to reap the benefits of their initial education and, in more general terms, of all their acquired skills should be the duration of their active lives, in other words the long term. This is a very different perspective to the short-term *ad hoc* nature of a demand for skills in response to a temporary shortage.

The contradiction between these two temporal perspectives emerges clearly from a comparison between individuals and enterprises. Individuals, possessing skills from which they wish to derive benefit over a long period of time, are subject to antithetical forces: on the one hand the long duration of their active lives increases the length of time they spend in formal education, while on the other hand the pace of economic change implies a shorter lifespan for the skills they acquire. Like any other product, it might be thought that a skill has a fixed life cycle – shorter for some skills, longer for others – which has to be respected. This confronts the individual with a problem regarding the obsolescence and transferability of his or her acquired skills. In their economic calculations, individuals cannot be certain how long their skills will serve them and must take that uncertainty into account if they are to recoup their investment.

Moreover, the individual calculation will depend on the various institutions which regulate the supply of skills in the labour market. The school system, but families, associations and companies too, play an important part in the configuration of young people's initial education. The experience provided by families and the social environment, as well as work performed as a student, just like the knowledge imparted by the education system, endow young people with a basic set of skills. Empirical studies in France and Spain, for example, show that young people who have had jobs during their time at school and/or university are at an advantage when they seek work after completing their education (Planas, 1990; Béduwé and Cahuzac, 1997; Béduwé et al., 1999). The skills acquired during these informal educational experiences often serve no direct occupational purpose nor

have they always been intentionally acquired, but they constitute an essential part of the key or transverse skills, the productive value of which is rising.[31] The time taken to acquire these skills is often lengthy, and their profile is not always explicit, which makes them difficult for conventional information systems to pinpoint.[32]

To put it schematically, three types of institution can influence the production of skills in the countries of the European Union:

a) educational institutions from all the systems of initial education and initial vocational training;

b) institutions governing explicit further training; and,

c) institutions influencing the acquisition of social and occupational skills outside the education system.

These three categories of player have reached very different levels of institutionalisation and recognition, differences which exceed even the disparities between them in terms of market value. In the various countries of the EU, the rationales behind these institutional categories are extremely diverse (Vaniscotte, 1996; Aventur and Möbus, 1996), and their practice differs widely, depending on the degree of involvement and coordination of government, employers and labour within such institutions (Soskice and Hancke, 1997). Moreover, the time frames within which the aforementioned skills are produced, if not totally variable, differ widely in accordance with the respective national philosophies underlying each of the institutions. The individual, when calculating, must therefore take account of these disparate time frames within which skills are produced.

4.1.1.2 The global supply of skills

The previous point showed the temporal horizons that govern the supply of skills at the individual level. We must now ask how long it would take to renew the global supply of skills.

Two major processes can influence this renewal.

1. The first is linked to the demographic renewal of the generation leaving the system of initial education. The cohort embarking on its first year in the education system will not necessarily receive the same training as the one entering its second year. It is this phenomenon which has prompted observers to describe the active population as a stack of cohorts that differ not only in terms of numbers (possibly) but also – and this is especially true of the past 30 to 40 years – in terms of the length, nature and content of the initial and basic training they receive (EDEX, 1999).[33] These changes in the length and specialisation of training may be interpreted as responses to the demands of the market or as relatively autonomous processes which depend on the relationship between the demand of individual and families for training on the one hand and public education policy on the other. In the first of these processes, changes in the overall supply of skills are primarily linked to the pace of the changes that affect two consecutive cohorts as well as to the length of the training cycle and its degree of specialisation. For example, we might conclude that it is possible to alter the structure of the output of engineers, in other words to adjust the balance between the various specialisations, within two or three years, because a substantial core of the engineering curriculum is common to all specialisations. Conversely, in many countries medical students begin to specialise at quite an early stage, which makes response times very long; the output of physicians could not be altered within two or three years, even if it were possible to alter the distribution of matriculated

[31] This type of skill can be likened to the social skill postulated by Dutrenit (1997), which relates to the ability to perform the activities of everyday life in all spheres with a minimum of correction from others and with a certain sense of responsibility and initiative.

[32] It is, however, possible to associate certain types of less commonplace careers with certain forms of recruitment on the part of employers (Stoeffler-Kern and Tchibozo, 1999)

[33] We refer here to the WP1 phase of the EDEX project (for the website see footnote 40).

students among the various medical specialisations within that time frame. About 3% of the total supply of labour is renewed every year, which limits the scope for adaptation. Furthermore, the average size of cohort coming out of the education system is diminishing from one generation to the next because of the falling birth rate.

Another question that arises is that of the self-regulation of this global supply of skills, irrespective of the capacity of the initial-training system. Do the various market operators, and particularly young people themselves, correctly anticipate the development of the demand for skills, particularly by taking due account of the time required for the production of skills? Working within this framework, several empirical researchers have suggested a number of ways to create a model that would indicate whether individuals' training choices depend on their present situation in the labour market or on anticipation of their future situation. In a 'cobweb' type of model, it is assumed that students deduce the future labour-market situation from the present situation, which creates cycles of endogenous fluctuations[34] and sometimes totally chaotic developments. The main exponent of this hypothesis was Freeman (1976), who tested it on young American engineers.[35] An alternative hypothesis, developed primarily by Zarkin (1983) and Siow (1984), assumes that individuals in the labour market have rational expectations on the basis of the available information. In other words, students are able to anticipate perfectly any changes in the way in which the demand for skills is developing. Borghans, De Grip and Heike (1996) tested these two hypotheses on data relating to Dutch students and seemed to conclude that the former was slightly superior to the latter; most of their findings would indicate that the cobweb model had performed marginally better. Finally, the hypothesis of rational expectations on the part of students seems to have been largely invalidated by the Dutch research – as indeed it had been in Belgium too (De Meulemeester, 1992 and 1995).

2. The second process whereby the global supply of skills can be adjusted is that of further training. In this case, the pace of change depends on the nature of the desired modification and on the way in which it fits into working practices. It is likely, for example, that changes to certain characteristics of word-processing software would be easily assimilated by users. But the bulk of the forces that determine how quickly skill profiles are adapted by means of further training depend on interaction between the relevant players – companies, individuals and public authorities. It is clear that a society in which companies' management of human resources is based on a long-term perspective and in which individuals are able to keep building upon the framework of initial education they have all received will be better able to alter the stock of skills held by the entire active population.

In our societies, the initial education of the population – and hence, in economic terms, that of the active population – is irreversible in the sense that an inadequate basic framework of initial education tends to exclude individuals from jobs as well as from subsequent training opportunities (Steedman, 1999), since initial education forms the basis of further training. Within the system of initial education system itself, although the practice of re-entering the education system as well as changes of course and of university have become a prominent feature of the development of higher education in many countries of the EU, the scope for acquiring knowledge, and hence skills, is not *isotropic*. It would be easier, for example, for a graduate in chemical engineering to supplement his or her qualifications by doing a year of economics or business management than the reverse.

When we speak of the time taken to produce qualifications and skills, we must also distin-

[34] According to this model, the number of first-year students enrolled on a course in year t will depend on the starting salaries of those who completed the course in year t-1 but will also affect the level of salaries in year t+4, when they enter the labour market after four years of study.

[35] See also De Meulemeester (1992 and 1995), for example, for applications of the cobweb model in the Belgian labour market, where it was tested on young graduates, particularly graduates of engineering and commercial colleges.

guish between the lengthy period required for basic *framework-type* training courses and for the experience that shapes a person's life history and human capital on the one hand and the short periods required for specialised training *of a cyclical nature* on the other. Thus the strategies used to produce qualifications and skills are necessarily the result of a combination of many instruments that are available in the various education and training systems.

In practice, one of the main aspects of the change that has taken place in the education and training systems of the industrialised countries is that of the concurrent use of time for basic and specialised training. Our education systems are divided into a minimum of four subsystems, which are institutionalised to a greater or lesser degree from one country to another: there are the school, college and university system, the system for the occupational integration or reintegration of young people or adults who are unemployed or at risk (transitional measures, youth schemes, sandwich courses, reintegration schemes for women, etc.), the system of lifelong learning and the system based on experience, which is tending to become institutionalised as mechanisms are established for the recognition of informally acquired skills. Current research shows that these systems are gradually becoming more complementary than mutually exclusive (Planas, 1996; Bjørnåvold, 1997b; Steedman, 1999), which suggests that the development of skill is governed by the principle of the polarisation of training paths on the basis of the initial education process.

4.1.2 Enterprises and the need for skills: 'customer' requirements

In the customer-supplier model that was introduced in the introduction to this report, the enterprise is the main user of the qualification – in terms of essential knowledge and abilities – produced by the education system. It is one of the natural outlets for the products of the education system.

If we think in terms of skills, as we have been doing in this chapter, the analysis becomes more complex, because the enterprise is both a consumer and a producer of skills, and it is impossible to draw a rigid line between these two roles, since some specific skills can be acquired concurrently from the education and production systems.

We shall now examine the temporal dimension of the need for skills, beginning with the needs of the company then moving on to the wider context.

4.1.2.1 Skill provision at the company level

The time constraints on a company will be determined by two groups of variables.

First of all, they will depend on the company's strategic horizon (Galtier, 1996). If the company intends to continue its present activity over a very long period of time, its horizon is distant, and its main problem is the uncertainty that inevitably accompanies any project. If, on the other hand, the company is operating within a shorter time frame, it will intend to alter the use of its capital in the relatively near future. It is therefore highly probable that a change will also occur in its demand for labour, in other words in the set of skills it requires in order to adapt to the new use of its capital.

The time constraints will also depend on the 'staff dimension' that obtains within the enterprise. By staff dimension, we mean all the factors which make up the company's human-resources policy and which determine whether the company has an internal market, a training policy, etc., and, if so, how these are structured.

The combination of the two groups of variables determine company policy. It is obvious that a company working within a short time frame will try to obtain the skills it needs from the market without any soul-searching about the future use of those skills. A company that operates within a lengthy time frame, on the other hand, as well as securing the skills it needs for its short-term goals, may also try to create a bank of skills for its future needs. It will tend to develop a training policy and will have regard to the potential of individuals

when it recruits new staff. Nevertheless, even if a company has long-term goals, it may not have a long-term staffing policy and may be content to take what it needs from the market at any given time. The state of the labour market is plainly of great importance in this respect.

It is essential to bear in mind[36] that the industrial-relations model which governed the economy until the eighties was characterised by a high degree of institutionalisation and state intervention and was based on a system of work organisation with a marked division of labour and standardisation of tasks and that it based the use of labour on the concept of skill levels (skilled/semi-skilled/unskilled). Since the eighties and particularly in the course of the nineties, competition between companies has become increasingly global in nature, and uncertainty has beset productive organisations; the labour force is becoming segmented and diversified, and the trade unions are being weakened. Nation states are losing a certain amount of their power to control the national economy. The authority of the traditional collective mechanisms to regulate working conditions and terms of employment is gradually being eroded (Miguelez and Prieto, 1999). Personnel administration, in short, is turning into 'human-resource management'.

The tradition of industrial relations has therefore been jeopardised by companies' growing preoccupation with 'management'. In the English-speaking world, at the cutting edge of business-management theory, concepts such as 'human-resource management' (Storey, 1995), with its inherent idea of a workforce committed to the goals of the company, are gradually replacing conventional theories of industrial relations and their view of a labour market governed by partisan interests and conflicts (Kölher, 1999). The tidal wave of human-resource management is engulfing the structure of industrial relations, breaking it down into a variety of individual negotiating mechanisms in the realms of training, career development and even pay.

For more than a decade, the structure of productive organisations and the system of work organisation have been undergoing profound transformations. In particular, the rigidity of the Taylorist model of scientific management has been challenged at the same time as flexible decentralised organisational structures are being developed (Martin, 1999).[37] The instability and uncertainty of the markets and the fluctuations in demand call for new and more dynamic organisation and production methods and hence new and more flexible methods of manpower management.

But the new forms of industrial relations, and especially the aforementioned individualisation of companies' relations with their staff, are very important developments. Companies are, of necessity, developing their systems of human-resource management to take account of the temporal dimension. However, the procedures they adopt for that purpose vary considerably, especially because of the need for greater flexibility in the use of labour, involving recourse to both the internal and the external labour markets. As the Cedefop report on current vocational education and training research in Europe shows (Cedefop, 1998a, Part Two, Chapter 2), the time frame within which companies operate, in conjunction with the timescales governing the supply and demand of labour, are closely linked to the flexibility of their human resources, which derives in turn from their manpower-management policy.

This way of managing human resources, however, may jeopardise the functioning of a company's internal labour market, depending on the skills that the company requires. If the skill level is low and the desired skills are commonplace, according to Eliasson and Vikersjö (1997), a large firm will often do better to recruit the skills it seeks in the local labour market than to provide in-house training for its employees. Conversely, where the skill level is high and the skills are relatively rare, the company can and must establish an internal system to develop those skills.

[36] See chapter 2 (sections 2.1 and 2.3) on this point.

[37] See also Part Three of the present report.

In the domain of recruitment, and hence external flexibility, companies faced with new skill requirements have changed their recruitment procedures with the aid of new methods for the identification of skills[38] (Alpin and Shackleton, 1997). As levels of educational attainment continue to rise, employers seem to be trying harder to find evidence of personal qualities that are difficult to evaluate, more or less irrespective of degrees, diplomas or any other formal certification the individual may possess. Alpin and Shackleton (1997), referring to research conducted by Bartram (1995), specify that these selection methods will depend primarily on the size of the company, with small and medium-sized businesses attaching greater importance to personal qualities such as integrity, honesty and interest in the work of the company. Eymard-Duvernay and Marchal (1997), incidentally, conclude their work on recruitment by stressing the need to use a combination of methods for selecting staff and identifying skills. This, they say, is the only way to inject dynamism into the workings of the labour market. Otherwise, *the aim of complete transparency is illusory, and even if it could be achieved, it would be harmful* (Eymard-Duvernay and Marchal, 1997, p.226).

4.1.2.2 The global demand for skills

The development of competition in the product market, due for example to the opening of international trade or to technological and organisational changes,[39] has direct repercussions on demand for skills in the labour market. One of the problems for the production system is that it has to try to adapt this constantly changing demand for skills to the supply of labour that is available in the market. Obviously, these adjustment problems may be fairly minimal on a macroeconomic scale, even if particular companies or industries do experience temporary skill shortages. Any attempt to regulate this demand for skills would involve reducing the time taken for the specific demand to materialise and increasing the foreseeability of that demand.

The growth of global demand is often regarded as inevitable; it can serve to enhance the efficiency of the production system, provided that it can take place without delay. For that reason, workers have to adapt, and the identification of a mismatch, or the fear that a mismatch will emerge, will then result in action on the supply side. It would not be idle to explore this postulate, because the demand for skills is not rigidly dictated by technology; it is the product of numerous choices on the part of organisations and even institutions, and the dictates of technology are sometimes a secondary consideration when those choices are made.

4.1.3 To what extent does supply determine demand?

The problem of skill requirements cannot be presented in terms of mere adaptation to the needs of the moment but rather in terms of foresighted management of human resources. This being the case, we can then start to consider the supply situation as a challenge to companies, prompting them to respond by making more and better use of the available skills. As Bruno puts it when referring to mismatches between supply and demand, *In most industrialised countries there is a perceptible sort of sequential order whereby cognitive advances made by the company executives lead to technological and organisational changes, which also require greater knowledge on the part of workers on the shop floor, while cultural development at grass-roots level within the company creates new opportunities which directors and middle management perceive and subsequently exploit. Consequently, the process is in permanent imbalance, which makes the occurrence of mismatches easy to explain, impossible to avoid and, we have to say, desirable...* (Bruno, 1998, p.3). At the macroeconomic level, empirical evidence shows that the distribution of formal qualifications within the labour market tends to follow what has been termed the 'supply effect' (Mallet et al., 1997). The results of a macrostatistical analysis conducted in six countries of the EU

[38] Such as the production within companies of 'skill profiles' and 'skill frameworks' (Alpin and Shackleton, 1997, p.13).

[39] We referred to this point in chapter 3.

789

(France, Germany, Italy, the Netherlands, Spain and the UK) confirm that the availability of young people with a higher level of education and training, generation after generation, who enter the working population leads to changes in the structure of qualifications within occupational categories by means of a simple knock-on effect. Everything would seem to indicate that the various occupations take from the labour market what they find and not what they require in terms of their specific needs. According to these findings, the development of certification levels in each occupation can be explained by the general growth in the number of certificates rather than by particular recruitment patterns within each occupation. This development could have been expected on the basis of factors such as an increase in the numbers in an occupation or the speed with which the skill requirements for the various occupations are changing (Cedefop, 1997a).

The overall result of this analysis is somewhat troubling in relation to the general ideas on which education policies are founded. The widespread belief that the development of initial education responds to changes in company demand, or at least that each occupation harnesses this development in accordance with its own internal dynamics, is not really compatible with the homogeneity observed in the distribution of qualified individuals throughout all occupations.

In the light of these findings, it is plausible to consider that the rising level of qualification is based more on a social demand for exogenous training than on the requirements of companies. This is not to say that these extraneously generated dynamics have no effects on job content and on company behaviour, as Bruno indicated (see above).[40]

[40] In the framework of the Targeted Socio-Economic Research (TSER) programme administered by Directorate-General Research of the European Commission, a research project on educational expansion and the labour market (EDEX) is currently being conducted with a view to examining these findings in greater detail (website: http://193.49.48.153/edex/)

4.2 From modular skills to modified requirements

In a context in which the demand for qualifications is undergoing radical change, mainly as a result of technological and organisational changes, the development of the nature and content of jobs compels the production system to alter its skill requirements at very short notice, often on a timescale far removed from the one that has traditionally governed the production of skills and the associated qualifications. At the same time, as Europeans spend an increasing number of years in formal education against a backdrop of high unemployment, the education system is producing an ever-growing number of qualifications and qualified people. As they 'multiply', however, diplomas seem to be less and less able to provide all the information that is required for the recruitment and promotion processes.

Accordingly, we must investigate the way in which adjustments are made in the skills market. Several questions arise. Are there mismatches between supply and demand, and, if so, what kind of mismatches are they? How are adjustments then made? What role can the education system play in these adjustments? Before answering these questions, let us begin by returning to the constraints that affect any attempt to adjust the balance between the supply of skills and the demand for skills.

4.2.1 Adjustment and associated constraints

Notwithstanding the problem of the temporal dimension, the mechanisms for adjusting the balance between supply and demand in respect of qualifications or, to be more precise, in respect of skills do not work instantaneously and are based on various different principles. In this subsection, we shall present the three main constraints to which these mechanisms are subject:

a) the non-economic functions of the education and training systems;

b) the amount of information available in the skills market; and,

c) the institutions that regulate the supply of and demand for skills.

4.2.1.1 The multifunctional nature of the education system

The first category of constraint is deeply ingrained in the multifunctional nature of the education system and, more generally, of all explicit education and training systems. The value of a diploma exceeds the productive value assigned to it by the market. We must avoid an over-simplistic view of the education system and its role, because the general demand for education and training is relatively independent of the skill requirements of the production system. The demand for formal education derives from the role of formal qualifications in social and professional life. The growth in the demand for education and training its not purely associated with job prospects, expected productivity gains and the material rewards that individuals hope to reap from their qualifications. Carnoy (1982) said that, even in an economy that proved incapable of absorbing an increase in the number of certificated people and required some of them to accept jobs hitherto occupied by employees with less training, the incentives that had prompted the rise in education levels would continue to operate. After almost 20 years, these words still ring true.

P. and A. D'Iribarne (1993 and 1999) underline the importance of the symbolic role of education in France. It is not possible, they say, to understand the relationship between the education system and the production system in France while neglecting the symbolic aspect of education. And that presupposes an understanding of the role played in modern France by the distinction between that which is more noble and that which is less so. [...] In contemporary French society, a person's 'scholastic nobility', acquired by virtue of his path through the education system, will determine, and determine for the rest of his days, his degree of personal nobility. (P. and A. D'Iribarne, 1999, p.28). What is true of France is also true, albeit in different ways, of the countries of 'Old Europe'. In order to comprehend the relationship between the systems of education and production, it is necessary to understand the mechanisms, which are probably different in every country, whereby each country uses its education system to confer various grades of 'nobility', which are based today on conception rather than execution and on independence and responsibility rather than service to others.

The question of the relationship between training and jobs, of the correspondence between training levels and job status, is a similar sort of problem. The education system produces skills but also produces a social hierarchy; as far as the elite groups within that hierarchy are concerned, the system confers its highest status on people in careers with a very broad professional function (A. and P. D'Iribarne, 1993). Nevertheless, the general rise in education levels poses the problem of reconciling a status conferred by the education system with a production system that remains more hierarchical than the education system. This, according to Carnoy and Levin (1985), is a manifestation of the conflict between the dynamics of capitalism and those of the democratic state.

4.2.1.2 The information value of skill

The rise in the education levels of the active population is inevitably transforming the role of training and certification as signals. In fact, the profusion of paper qualifications diminishes their market value, which is the main hypothesis of the credentialist theories, and affects their classification value. The hierarchy established by the education system tends to become ever less clearly reflected in the employment hierarchy. The grading process initiated by the educational institutions when they award diplomas only comes to fruition in the pursuit of an occupation, when the employee's acquired skills assume their full significance. Differentiating mechanisms supplement or alter the hierarchical model drafted by the education system when it awarded its diplomas.

Although educational qualifications are part of the hierarchical structure that is erected within the production system, they are only the foundation stones. The proliferation of diplomas modifies the information they con-

791

vey to the labour market. *The abundance of signals kills the signal* and shrouds the array of qualifications in the marketplace and the skills they represent. If the number of years of study increases and if there is little differentiation in the training offered to young people,[41] the information value of the diploma will diminish, except in the case of its absence, where the negative signal will be amplified. The education system is therefore proving less and less able to supply all the information that is required for the recruitment and promotion processes.[42] Formally qualified recruits possess productivity potential which the productive organisations must turn to account. Responsibility for training lies with individuals, whereas the power to codify it in terms of skills often rests with employers. Recognition of new codifications of skills poses numerous problems, as we saw in Chapter 2, with regard to both the measurement of each skill and acceptance of the codifications by the various players in the labour market.

4.2.1.3 The institutions

Besides the bodies within the education system, various other institutions regulate the skills market on a more or less formal basis. From the family to careers-guidance officers, from social networks to the state, which often sets a minimum price for skills, from small businesses to entire industries, from the trade unions to the employers' organisations, a host of institutions are involved to a greater or lesser extent in the production and use of skills.

The role of these institutions in the segmentation of the labour markets in Europe in recent decades has been of particular significance. The stability of the internal and occupational labour markets in each country has had a great impact on the regulation of the skills market, even though that stability sometimes appears to be under threat (Géhin and Méhaut, 1993; Moncel, 1996; Récio, 1999). The segmentation process has affected not only the funding of skill production but also the transferability of skills and therefore, ultimately, their consumption by institutionalising the rules governing their acquisition. The acquisition of skills in less and less regulated, less and less institutionalised markets, necessarily undermines the existing forms of regulation, especially in relation to new entrants to the labour market. This development has to be taken into account if we want to understand the adjustment mechanisms that will apply to the skills market of the future.

4.2.2 Towards a new definition of mismatches

In an analysis in terms of skills such as we have presented here, a mismatch at any given moment in time is not a problem per se. If we apply strictly commercial standards, the duration and cost of the adjustment process are the only significant factors. In other words, the mismatch problem that is inherent, for example, in an underskilled economy generates at least two types of cost: the direct cost of adapting to the new skill requirement (the cost of training, for instance) and the indirect costs associated with the length of the transitional period (opportunity costs resulting from a delayed response).

At the macroeconomic level, let us consider two types of imbalance between supply and demand with regard to skills and two time frames – the short term and the long term – corresponding to cyclical and structural imbalances respectively.

In his analysis of financial markets in the *General Theory of Employment, Interest and Money*, Keynes ranks expectations on the basis of the time frame within which the enterprise is able to judge whether they have been fulfilled.[43] Keynes thus distinguishes between short-term expectations, corresponding to

[41] Especially if the selection rate at the start and the final certification rate remain constant.

[42] There are quite clearly considerable differences between the European countries in this respect, as Hannan et al. (1996) emphasise, especially between the countries using a dual system of alternating on-the-job training and formal education and the other countries.

[43] On this point we can refer to Favereau (1986), who extends the Keynesian analysis to the commodity market.

Table 4: Types of mismatch

	Cyclical imbalance	Structural imbalance
Growth in demand for skills	A	B
Growth in the supply of skills	C	D

production and employment decisions that can quickly be reversed, and long-term expectations, involving investment decisions that are often irreversible, with regard to largely or entirely unforeseeable events with macroeconomic repercussions. Whereas short-term expectations are usually fulfilled, long-term expectations pose a number of problems. As Faveraux notes (1986, p.253), the Keynesian analysis may be adapted to the commodity and service markets, even though these markets have only treated short-term expectations as extraneous variables and are only concerned with companies' long-term expectations in so far as they affect the workings of the financial markets. One might also try to transpose this analysis to the skills market by distinguishing short-term cyclical imbalances from long-term structural disequilibrium. Short term imbalances will be due to exogenous shocks which affect the supply of skills or the demand for skills but have no irreversible macroeconomic impact. Long-term imbalances of a more structural nature will relate to more irreversible strategic decisions taken in a context of profound uncertainty,[44] in which the various players' decisions could have chaotic results.

At the same time, these two imbalances, the structural and the cyclical, might be reflected in a jobs squeeze and a surfeit of skills or in a skill shortage. Quite clearly, these are not alternatives, and there could be an intermediary situation in which an oversupply of some skills coexisted with a shortage of others. For the sake of simplicity, however, we shall hypothesise that one type of imbalance would be strongly predominant at any given time.

The first situation will occur when *the supply of skills is increased*, as a result of education policies, for instance, while demand remains more or less constant or develops independently of supply variations. The second situation will tend to occur when *demand for skills grows* because of technical progress or organisational changes, while the supply of skills remains constant or increases by a far smaller amount than demand.

The four possible types of mismatch are presented in Table 4:

The first row of Table 4 indicates the type of skills shortage that some European reports have envisaged (European Commission, 1992). This scenario has posed challenges and elicited responses that have often been encountered over the past four or five decades in the various countries of the EU. This scenario originally provided the justification for the consensus which led to the rise in education levels in Europe in the course of these decades and for the development of both national and Community vocational-training policies supported by the European Social Fund.

The second row, on the other hand, relates to situations in which there is a glut of skills,

[44] We wish to contrast two types of uncertainty. The first derives from a context of imperfect information, in which the various economic operators will be able to predict the future 'state of the world' with a fair degree of probability. This primarily short-term uncertainty is envisaged in neoclassiocal economic theory. This type of uncertainty, however, was sharply criticised by Keynes, who said that human decisions with a bearing on the future could not be inspired by a purely mathematical projection, because the basis for such a decision did not exist - a view endorsed by Knight, who stated that *the term uncertainty must be restricted to 'non-quantitative' views about the future, and it is this 'true' uncertainty and not risk, [...], which forms the basis of economic decision-making* (quoted by Orléans, 1986). The second type of uncertainty is therefore a profound uncertainty, which is unforeseeable and is most likely to result from the appearance of new knowledge that resists all rational programming.

and particularly of formal qualifications, within the economy. This type of mismatch, which generally arises from an overabundance of skilled labour, has increasingly profound adverse effects on the labour market. On the one hand, educationally qualified people, especially those in the youngest age groups, find themselves downgraded in relation to the initial education they have received and/or consider themselves overqualified for the work they are expected to perform.[45] At the same time, the glut of certificated manpower restricts or ruins the employment and training prospects of individuals with insufficient education. Nor does further training, be it formal or informal (i.e. on-the-job training), represent a second chance in most cases (Planas, 1996), because it is generally provided on a selective basis to those with a certain level of basic theoretical knowledge.[46]

Let us now consider the characteristics of these imbalances and the options for adjusting training systems in the light of the constraints presented above. Needless to say, we shall only be able to examine some of the adjustment options here. Training systems are not the only solution to mismatch problems; it is perfectly possible to rectify a shortage or surplus of skills by acting on production technology. However, we shall consider such actions here as exogenous factors.

Case A: cyclical imbalance and skill shortage

This first case relates primarily to the active population within the labour market. The company chooses from the market the skills which it lacks and which will minimise its adjustment costs. It will select the range of skills that is closest to the vector it seeks. It may choose these skills from its internal labour market, redeploying its existing human capital or possibly by offering further training. It can also recruit from the external market, engaging young people with formal qualifications or more experienced workers who are unemployed or are enrolled with a temporary-employment agency. Lastly, it can lure employees away from other companies. On a macroeconomic scale, this is liable to increase the price of skill without resolving the shortage. Other options exist, such as reorganising the workforce or subcontracting, which would make a third party responsible for finding the necessary skill.

Any structural adjustments to the system of initial education, on the other hand, are liable to create irreversible situations at quite considerable expense without meeting the short-term needs. Adjustment times would be lengthy, and several cohorts would emerge from the education system to find that their course choices had been based on false assumptions and were now irreversible. The idea is fairly simple and universally recognised: to meet an immediate need for computer engineers (for the millennium bug, for example), it is not enough to create one or more new engineering courses. For one thing, it will take quite a long time to establish and run a new training course, and the chances that it will meet the short-term need of the production system may be reduced by intervening variations in the needs of the system, possibly stemming from technological or organisational changes. For another thing, the vast majority of the engineers coming out of the education system will be inexperienced and are therefore unlikely to be fully operational within a short period of time. Quite clearly there are other options besides this rather extreme example; further training, for instance, would serve to accelerate the adjustment process. Such measures, however, must be temporary, lest they create structural imbalances.

The speed of adjustment depends on flexibility of supply. Any constraint that limits this

[45] With regard to these two perspectives, reference may be made in particular to the studies by Alba-Ramirez (1993) and by Garcia-Serrano and Malo-Ocaña (1995) in Spain or by Forgeot and Gautier (1997) in France.

[46] This level of knowledge is necessary in order to transcend the narrow know-how connected with work that can often be learned on the job with the aid of informal instruction from an experienced worker. Without this theoretical knowledge, it is difficult to imagine how recognised skills can be any more than a set of memorised instructions for specific operations (Marsden, 1994)

flexibility will delay the adjustment process, even if we assume perfect information on the development of the skill requirement. That is why the system of initial education, because of its multifunctional nature, its long-term perspective and its reaction times, cannot easily deliver a precise short-term response to labour shortages. This does not in any way imply that that the education system is powerless or ineffective in the face of specific labour shortages. On the contrary, it affords the best protection against a skill bottleneck by offering a high level of general training which serves to reduce the time and expense involved in the production of essential skills.[47] But every nation has developed further-training institutions which, in certain conditions, have furnished proof of their ability to resolve this type of imbalance. They offer the advantage of responding more flexibly to a sudden demand for specific skills while shortening adjustment times. Further training, however, remains highly dependent on the level of initial education that employees have previously attained.

Case B: Structural imbalance and skill shortage

On the basis of the plausible but unverifiable hypothesis that the development of our societies and production systems will generate demand for higher skill levels in the long term, we can foresee two possible types of skill shortage.

The first is that a skill might generally be in short supply because of job growth within the economy. This is currently the case in France and Spain, for example, with regard to foreign-language and computer skills. It is conceivable that these two skills will become a structural necessity for a great number of jobs in the modern economy. In this situation the education system has to intervene by offering courses which will enable people to acquire at least some degree of proficiency in these skills.

The second possibility relates to a shortage of certain skills that have to be adapted to specific individual profiles. The solution for the education system in this case is to create initial or further training courses as a means of adjusting the training structure to take account of this need.

In both these situations, the education system can pursue either of two compatible strategies. The first is to opt for general training, thereby making the new skill easily transferable to people in all occupations. That will lay the foundations for more learning, enabling young people to adapt to the growing demand for skills. But it will not make them instantly competitive in the labour market. The second strategy is to make 'ready-to-use' manpower available in the labour market by providing instruction in the skills that trainees need in order to find jobs on completing their education. In the medium term, however, this option poses the problem of obsolescence and redeployability of the skills in question.

The response that turns out to be most effective in this case is a combination of specialised training (as brief and inexpensive as possible) built on a foundation of previously acquired skills – and hence based on knowledge of the individual skill profiles of the active population in the labour market, however their skills may have been acquired. This entails linking the various training systems and facilities (co-production).

Case C: Cyclical imbalance and a glut of skills

A cyclical imbalance corresponding to a sharp variation in supply may result from deficiencies in the market and in the various institutions which regulate the supply of and demand for skills.

This type of short-term imbalance does not necessarily create inefficiency within the production system, which is able to adapt to supply growth (Bruno, 1998). It may even stimulate technological and organisational changes within enterprises. However, if it persists, it is conceivable that the phenomena of frustrated ambitions among overqualified young

[47] This argument reinforces the 'learning by learning' theory as expounded by Stiglitz (1987).

795

people and career bottlenecks for experienced employees will begin to outweigh the benefits of such an imbalance.

That, in fact, will depend on the precise characteristics of the imbalance. We shall explore two possibilities:

1. The new cohorts emerging from the education system may be overqualified – in other words overeducated – in relation to the specifications listed in the job advertisement. This implies that some of the skills acquired in the education system are liable to go unused and that the price of these surplus skills will fall, all other things being equal. This will translate, for example, into a reduction in the financial benefits of education for new entrants to the labour market or an increase in graduate unemployment, which could lead to a reduction in the initial investment in human capital by subsequent generations. The evidence suggests, however, that no such mechanism is at work (Carnoy, 1982). Besides the explanations in terms of opportunity costs, young people's current educational strategy can be justified by the fact that investment in general training enables them to preserve or improve their relative position within the labour market, even if their job prospects or salary expectations are diminishing in absolute terms.[48]

2. The new cohorts may not have the skills that companies require, as a result of growth in demand. Young people may resolve this mismatch by acquiring skills in the labour market during the first years of their active lives. Now that access to internal labour markets has been closed in certain countries of the European Union,[49] young people find themselves compelled to acquire skills in a number of insecure jobs before gaining a sound foothold in the labour market. In this case, it is the jobseekers themselves who incur the adjustment costs.

For those cohorts that are already part of the active population, the problem is primarily about experience acquired on the job and further training. Work experience can play an ambivalent role. It may enhance an employee's adaptability by providing first-hand examples that are similar to the new situation faced by the workforce and by enabling the employee to become accustomed to mixing and matching all the skills that can be used in the new situation. But work experience can also have the opposite effect if it only provides the employee with practice in daily routines, deeply ingraining particular habits and making it more difficult for the employee to shake these off and adapt to new requirements. Further training is, by definition, a means of adaptation to new skill requirements. But these requirements must also be clearly identified, and the conditions for an efficient transition (prior training, motivation, etc.) must be guaranteed.

Case D: Structural imbalance and a glut of skills

The existence of a structural imbalance associated with sharp variations in the supply of skills poses the same problems as in the previous case, but this time the problems are considerably more serious, because the market and the institutions have repeatedly failed to regulate the supply of skills.

The multifunctional nature of the education system, the consensus established by individuals, business and government on the desirability of educational growth and the weak influence of prices as regulators of access to training are undoubtedly the main causes of this potential imbalance.

The fact that access to education costs next to nothing in most countries of the EU means that cost has virtually no role to play in regulating entry to the system. In certain conditions, it might be possible to correct this imbalance by ensuring that people know the truth about the financial benefits of education, about career opportunities and about the

[48] The explanation of these strategies has been extensively developed in specialised literature, particularly by Boudon (1973) and Thurow (1975).

[49] We refer especially to the studies by Recio (1999) for Spain and Moncel (1996) for France.

probability of academic success or failure. This type of approach, however, poses the problem of accurate short-term anticipation of behavioural changes on the part of those who determine the supply of skills and demand patterns. Another option would be to reintroduce some degree of competition (Glennester, 1991) into an education market which, according to the advocates of the liberal approach, is too dependent on the centralised decisions of the public authorities. This would serve to match the quality and quantity of the supply of formal qualifications, and more particularly of skills, with the demand emanating from the production system by virtue of direct regulation by the price mechanism. Competition between educational establishments and training systems (Rapple, 1992; Blair and Stoley, 1995) would serve to reduce the distortions in the skills market. Once again, however, this is an option that ignores the antithesis between the timescales governing the production and consumption of skills.[50]

Finally, it must be said that the arrival of masses of certificated young people in the European labour markets over the past 25 years has neither created any irreversible structural imbalances nor led to any profound changes in the methods by which holders of certificates are selected within the various occupations (Mallet et al., 1997; Béduwé and Giret, 1999). On the contrary, it is observable that the percentage of certificated employees is fairly constant from one occupation to another, even if we make allowance for technological progress (Giret and Masjuan, 1999).

4.2.3 Predicting long-term needs in situations of uncertainty: a case for qualitative adjustments?

We should examine the possibility of forecasting and anticipating long-term needs that ought to be addressed. The exercise we conducted over the last few pages necessitates further reflection, based on the characteristics of the 'long term' which were defined in the introduction, particularly the shortage of information and the uncertainty it breeds.

In a context of uncertainty, more than in any other situation, long-term adjustments depend on identification of the 'durable', which, if we think of skills, can only be defined in terms of those which allow access to other skills as yet unknown and thus implicitly defy long-term definition. In other words, it is a matter of defining the framework skills and of focusing on adjustment measures with a view to ultimate general acquisition of those skills.

This will surely ask questions of the institutions responsible for initial education but also of those involved in further training which perform, in a manner of speaking, the task of teaching adults to read and write all over again.

The initial-training institutions must examine the content and methods of compulsory education (Cedefop, 1999) and on the content and priorities of upper-secondary, further and higher education.

One aspect of these essential reflections on initial education which ought to have profound long-term effects is its 'cultural' reform.

Despite the constant repetition of the mantra that training is a matter of 'lifelong learning', our systems still tend to act as if initial education were the time for learning everything, once and for all. As a result, they are inclined to respond to the emergence of new knowledge and scholarship by adding to the structure, which is liable to make them less and less effective. Today, providing a good basic education means making crucial cultural choices about the strategic content of basic education.

The increase in the knowledge and 'wisdom' that is available in our societies (thanks to scientific development and its propagation by the new forms of information and communication technology) has not been integrated into our education and training systems in a thoughtful and selective manner but has

[50] Unless we assume that all the competing training systems operate on the basis of perfect information.

rather been grafted onto the traditional models of cultural values and access to knowledge. In addition, the introduction of the 'skills culture' as opposed to the 'knowledge culture' is still proceeding very tentatively in our systems of initial education. Blaug (1999) highlights this point when he defends the idea of qualitative adjustments to education systems.[51]

This being the case, it is essential to define a 'minimum training platform' (Cedefop, 1999). In general terms, our school systems have responded to increases in knowledge by adding to the structure without any real effort to be selective and hence to establish priorities. In this way, our school systems have incorporated more knowledge, more foreign languages and specialised languages, have diversified their methodology and fostered interdisciplinary skills, etc., without establishing priorities or, to put it another way, without defining the *essential core* of our culture. The effect of this accumulation on school curricula has differed between countries but, in general, the key knowledge and skills have not been targeted. The purpose of defining the minimum training platform is therefore to guarantee the dissemination of key knowledge and skills and thus to lower people's expectations of initial education, which should not involve itself in every possible field of knowledge but serve as a reliable gateway to lifelong learning.

Changes in this direction are 'spontaneously' validated,[52] but they are still too limited in their effects. There is a noticeable absence of any determined bid to put framework skills at the core of initial education, and why should they not be introduced as an element of the re-education process in further education?

4.2.4 Regulation of education and training institutions

Institutional regulation is also a complex matter. The education system, by dint of its diverse functions, cannot decide independently to restrict the annual flow of qualified pupils, students and trainees from its establishments. Although it is possible to achieve this effect by tightening entry requirements or by reducing pass rates, the whole issue remains a social and political minefield. On the one hand, a high cultural and social value attaches to education in most countries of the EU; it is the key to upward mobility for individuals, many of whom come from deprived social backgrounds. On the other hand, the internal inertia we alluded to above makes the education system a complex organisation (Hoenack, 1994), based on a somewhat contradictory incentive system (Carnoy and Levin, 1985; Franchi, 1992). A general rise in education levels, for example, poses the problem of the linkage between the grading effected by the educational establishments and a production system with a more pronounced and stabler hierarchical structure, which, according to Carnoy and Levin (1985), is a manifestation of the conflict between the dynamics of capitalism and those of democratic government. Nor should we ignore the sometimes antithetical interests of the various players involved in the operation of the education system. Even if they are in more or less tacit agreement on the internal regulation of the system, their aims will not automatically be compatible with staff cuts or with major changes in the methods used for the dissemination of knowledge or even in the nature of that knowledge.

A more general explanation of this deficiency in terms of the players' strategies may be that

[51] Blaug (1999, p. 6) states, for example, *This is to deny that workers do need a minimum threshold of competencies in order to perform adequately on a job, and one comprehensive American study tried to specify these minimum computational, reading and communication skills. While these specifications are largely qualitative and not quantitative in nature, and hence cannot be mechanically applied to different types of school leavers, they suggest that at best so-called at-risk students, namely school leavers from immigrant minority and extremely poor families, might fail to meet the minimum standards, which brings us back to the question of how to help the potential school leavers without drawing undue attention to them.*

[52] Educational innovations and a shift in the curriculum towards more application-based courses in secondary and higher education are occurring in all Member States on the basis of a greater or lesser degree of judicious guidance.

of a 'consensus' in favour of raising education levels (Béduwé and Espinasse, 1995b) in the context of a job shortage. Keeping young people in the initial education system is an effective way for governments to deflate the active population and, more specifically, to reduce youth unemployment while responding to a recurrent aspiration of society to raise the general level of knowledge. Because of the shortage of work, young people perceive a fall in the opportunity cost of continuing their education and prefer to preserve the advantages of student life than to venture into the uncertainty of a deeply depressed labour market. Moreover, by simply perusing a breakdown of the unemployment figures by level of education, young people will see that graduates are more likely to find a job, even if the level of qualification required for such jobs corresponds to an ever diminishing extent with the education level of a young graduate. For that reason, most parents encourage their sons and daughters to continue their education at college or university. Lastly, employers, who do not have to finance this raising of education standards, can make use of this rise in the general skill levels of the labour force to drive down pay levels while enjoying the benefits of a workforce that is better educated and hence likely to adapt better to changing circumstances. An analysis of the arguments advanced in the eighties and nineties by governments, trade unions and employers in Spain on the subject of education and training highlights a desire to increase the general level of education of the labour force that is most often unconnected to the needs of the production system (Llorens et al., 1996).

A surplus of certificate holders raises the problem of relevant information in the labour market. It is very clear that, from a credentialist point of view, this situation is highly inefficient, because it does not enable prospective employers to identify clearly the productive capacity of job applicants.[53] On the demand side, skill requirements themselves are becoming less standardised because, faced with the deficiency (caused by overabundance) of the institutionalised differentiation criterion (the certificate), employers have recourse to more individualised criteria, particularly behavioural attributes. Besides the new qualities that are now needed because of changes in work organisation, behavioural skills are eclipsing know-how, not because the latter has declined in importance, but because there is an abundance of know-how in the labour market, and possessing it is no longer an adequate distinction. In this context, numerous new forms of private recruitment mechanisms are emerging – new employability indicators, social networks, etc. (Vinokur, 1995) – to supplement or replace the institutional or market mechanisms for the reconciliation of supply and demand in the domain of jobs and labour.

Given this rise in the supply of qualified labour, the emergence of a new type of certification based on skill is regarded as a priority objective, especially as the demand for flexibility imposed on every sector of the economy has hardly spared the education system. Criticism of the present system has been steadily growing, as Vinokur (1995) emphasises, and *apparently, certificates are even regarded by some as a standard 'imposed'*[54] *by the education system*. Unless it were the subject of negotiation among the various institutions, the gradual replacement of certificates by skill as the recognised qualification would undermine the social edifices associated with certificates (D'Iribarne, 1996) and, in the wider context, the systems of industrial relations that exist in most countries of the European Union. In those countries, however, there are no signs that any other type of credential is establishing itself as an alternative to the educational certificate for the time being. This, suggests Marsden, is due to the absence of prior agreement among the various players: *The measures designed to reform the qualification sys-*

[53] This constraint, however, weighs far more heavily on new entrants to the labour market than on experienced workers. The past experience of the latter, recorded in a CV for example, does tell the prospective employer about the candidate's productive potential, even though this type of information is not generally presented in a very standardised manner.

[54] Or negotiated, in cases where companies generate competition bet ween training establishments. This perception of certificates seems to be increasingly significant in the United States.

tems on the basis of recognised skills, which could be regarded as components of wider qualifications, offer an opportunity to preserve transferability where it already exists and even to introduce it where it is still very limited at the present time. But [...] the reforms have little chance of success unless appropriate incentives can be established for the various players and a suitable framework for cooperation between employers and employees. Unless that happens, the capacity of European businesses to adapt to economic change will remain limited, and the human cost will rise sharply (Marsden, 1994, p.23).

In order to adapt, the education system must develop the information value of its certificates and encourage the various operators in the labour market to recognise the skills it imparts. Education systems are currently trying to send out a far greater volume of signals about the content and quality[55] of the courses they teach. In the realm of initial education, this is done primarily by intensifying relations between the education and production systems, which promotes certain types of course, such as apprenticeships, or serves to involve all the economic players in the mechanisms by which certificates are created (Möbus and Verdier, 1997). In the realm of further training, the education system can play a part and can even organise a new type of certification by combining the validation of skills acquired on the job with more theoretical training modules.

Finally, we cannot rule out long-term self-regulation by the market. A persistent glut of certificated labour would result, for example, in lower returns from education for new entrants to the labour market, downskilling mechanisms and/or a shortage of job opportunities or, possibly, a freeze on social mobility. In such a situation, it might be in young people's interests to invest less in their education. That, however, will ultimately depend on the stability of the consensus and on whether and to what extent the various players have an incentive to break it.

[55] On this point, the reader is referred to issue no. 15 of the European Journal *Vocational Training*, published by Cedefop in 1998.

4.3 Conclusions

The aims of this chapter were to foster a better understanding of the mismatches that currently exist in the skills market and to define the mechanisms with which these imbalances can be corrected. We shall conclude our reflections with a few remarks on these points.

It seemed to us that it was difficult to arrive at an objective and precise assessment of the mismatch problems in the skills market for several reasons:

First of all, to speak of mismatches in the skills market as opposed to the qualifications market is to refer to a situation which is far more difficult to grasp. As the average period of formal education has lengthened in most European countries, the role of initial training and formal qualifications has been changing. Although their function as a preliminary filter has been reinforced, final decisions on recruitment and promotion seem to be determined to an increasing extent by the skill factor. As we saw in chapter 2 above, the ways in which skills are produced and acquired are extremely diverse. In the skills market the divergences between the time frames within which the various players operate prohibit any instantaneous adjustment of the market; the production of skills is a long-term process, with a horizon that stretches at least as far as the active lives of the individuals in the labour market, whereas the consumption of skills is determined to a great extent by short-term fluctuations.

Moreover, the development and institutionalisation of new subsystems of vocational training, such as continuing training, youth-training schemes, recognition of informally acquired knowledge and skills, etc., tend to increase the complementarity of the various forms of skill acquisition, which can sometimes make them less substitutable. Paradoxically, this development does not seem to shorten the time frame within which skills are produced. On the contrary, it exacerbates the initial complexity of the 'multifunctional' training systems, in which the creation of skills for use in the productive system is but

one of several objectives. The demand for skills is based on quite a different type of logic. Its development is always closely linked with the continuous process of change in the productive system, with the development of international trade and with technological change, and these factors tend to shorten the time frames in which it operates. The problem for the productive system will be to try to reduce, as quickly as possible, the discrepancy between this demand and the pool of skills that are available in the labour market so that it can remain competitive.

Thinking in terms of adjustments ultimately means harnessing the dynamics of social interaction which determine the motivation of the various economic players. There is no reason whatever why different players should be motivated in the same way or why they should all aspire to reduce the number of mismatches between skill levels and jobs.

If we consider four highly theoretical types of disequilibrium based on time frames and on a shortage or glut of skills in the market, it emerges clearly that the dynamics of adjustment differ widely, depending on the extent to which the future state of the market is foreseeable. In the short term, cyclical imbalances are often foreseeable and therefore less detrimental. A glut of skills might even present a business with an opportunity, encouraging it to make better use of its available skills and thereby serving as a source of innovation. It is the existence of unused and/or easily redeployable skills that gives an economy the freedom to make the best use of the pool of available skills from day to day, to make the labour market work and to integrate technical progress and growth. Skill shortages may be measured by the amount of time and adjustment expenditure that individuals and companies have to invest in order to acquire the missing skills. If these required skills are clearly identified and based on simple framework skills, the shortfall is generally made up by means of *ad hoc* decisions which can quickly be reversed. In this context, further training of a formal or informal nature serves as a rapid response to a specific skill shortage. Long-term structural imbalances, however, are more difficult to anticipate because they are not easily foreseeable. A structural skills deficit is damaging to both the individuals who are affected by it and to the companies who incur the necessary adjustment costs. At the other extreme, a structural glut of skills, like 'overeducation', may seem to be something of a challenge to our economies, since it confronts them with the need to make the best possible use of an increasingly abundant stock of human capital. Failure to use the potential of an individual will often result in frustrated ambitions, thereby creating a sense of social exclusion and alienation from the production process which will be reflected in company productivity figures. The overproduction and/or underutilisation of skills may seem like a waste of resources. At the same time, it is the key to the effective dynamic allocation of the labour force to the jobs that have to be done and is thus a guarantee for businesses, individuals and society at large. Avoiding any waste of resources and preventing the frustration of people's expectations while maintaining the flexibility that will enable individuals to adjust their skill profiles in response to the continual redefinition of economic needs is one of the central problems facing all modern economies. It is a political problem in the most emphatic sense of the term, because the difficulties arising from imperfect information and from the incompatibility of the time frame within which skills are produced with the time frame within which new skills become necessary make it structurally impossible to devise a solution based on reliable economic or social calculations. The way in which the initial education process is administered can be likened to a short-sighted surgeon performing an irreversible operation; as it trains individuals, the system produces knowledge over a lengthy period of time without being able to foresee the future development of skill requirements, even though such development is liable to affect the entire careers of its trainees.

Any attempt to regulate this type of structural imbalance must involve an identification of that which is 'sustainable'; in other words, the priority aims in the long term must be to identify framework skills and to ensure that they are acquired by everyone. This implies that adjustments to the system of ini-

801

tial education should focus on quality rather than diversity and should include, for example, the development of minimum skill platforms which will guarantee access to other forms of skill acquisition, such as systems of lifelong learning.

Finally, it should be said that the huge influx of young certificate holders into the European labour markets over the past 25 years has neither created irreversible structural imbalances nor effected profound changes in the ways in which the various trades and professions select qualified job applicants. On the contrary, statistical findings reveal a fairly steady production of qualified personnel across the entire range of occupations, irrespective of technological progress; individuals would appear to be recruited to the various trades and professions on the basis of what is to be found in the labour market rather than in response to specific needs.

5. General conclusions

In this report we have presented a selection of the literature that deals with the question of deploying labour in a way that will guarantee the development of the economy and of employees' careers.

This selection derives from a simple idea that underlies the basic approach of the EDEX network, to which the authors of the present report belong; this approach has been directly validated by the network's own empirical research findings (Mallet et al., 1997).

The idea may be summed up simply: in order to understand more clearly how individuals are assigned to jobs, we must distance ourselves from traditional ways of analysing the relationship between training and employment. All too often, these methods boil down to an analysis of educational certificates and employment. They induce researchers to present the problem in terms of a functional relationship between a customer (the productive system) and a supplier (the education system). For our part, we intend to study the relationship between skills and employment. This amounts to confirming the hypothesis that human productive capacity is divisible into a number of components that may be acquired in various places, at various times and by various means. If this hypothesis is true, the relationship between the production and consumption of know-how must be more complex than is generally assumed.

It is clear that our reflections have yet to reach their final destination. Their merit lies in the fact that they shift the issue towards new ground, namely that of skills, the macrosocial dimension of which has yet to receive much attention, and that they see the origin of skills in the framework of structural cooperation between the education system and the production system.

It seems appropriate to conclude this report by presenting some points for consideration that derive directly from our approach.

5.1 Is the state of the market 'determinable'?

The skills that are available in the market are produced by complex mechanisms in which – even if we simplify the equation drastically by excluding the role of social life– at least two factors are involved: the education system (initial education and further training) and the production systems. These two systems are jointly and severally responsible for the availability of know-how.

To suggest that the education system, whatever its forms and methods, is the only place, or even the main place, where specific skills are created is to misunderstand completely the true nature of the labour market.

The production of skills is inherently chaotic in the sense that, at any given moment, the future state of the market, i.e. the nature and volume of skills being traded, is not yet (totally) determined. The longer the timescale, the greater the uncertainty. It therefore becomes structurally unforeseeable beyond a certain horizon.

This assertion goes beyond the classic problems of momentary imperfect information. This imperfection in the market results from

the difficulty of correctly determining the skills required for a job and of assessing the future performance of an individual in that job on the basis of the signals he or she sends out. In fact, the productive value of an individual with a given set of characteristics will depend on that individual's interaction with the job and the working environment. Ascribing skills to an individual, even at the present moment, remains an exercise in probability. However, a mistake can be easily corrected, because the individual 'mismatch' will quickly become apparent and can be rectified by terminating the employment contract or by honing the employee's skills (by means of explicit further training or in a less formal manner). Finally, the problem can be solved – at least in theory– by creating greater 'transparency', for example of information in the market.

The inherent imperfection of information in the skills market lies in the very nature of human work and economic development. Globalisation, technical progress and the development of monopolistic competition tend to reduce the time frame within which reliable information is available. Outside that time frame, rational expectations are all we have.

This chaotic dimension applies to the demand for skills. A number of techniques, tools and concepts that will be used in future years by the young people who are being educated today are not yet operational at the present time, and some will be based on fundamental discoveries that have yet to be made.

It also applies – and this is not such a widespread idea – to the supply of skills. Individuals, in the course of their working lives, draw on their experiences in and outside the workplace to adjust and supplement their repertoire of skills. These changes result from the interaction between their initial education (in school and in society) and the series of productive tasks they subsequently perform (possibly coupled with additional training they receive). These interactions are strictly individual and, as such, are strictly unforeseeable. They are even less foreseeable in the case of careers in which individuals eventually find themselves in a job involving the use of technology that was unknown at the time of their initial education.

Beyond a certain horizon, we do not know what the skill requirement will be, just as we do not know the nature and volume of the skills that will be available. It is a fact of life which we have to accept and which, in itself, gives no grounds for concern.

Let us imagine an education system that could produce people who were trained specifically for the jobs that would exist at a given time, in other words taught to perform the tasks pertaining to those jobs and to them alone. That would constitute a barrier to innovation and to economic development.

It is thanks to the existence of unused or easily redeployable skills that economies find the scope to optimise the use of their human capital from day to day, that the labour market can function and that technical progress and economic growth can be absorbed.

Overproducing and/or underusing skills may seem like a waste of resources. But it is also the prerequisite for efficient dynamic deployment of labour and therefore a guarantee for enterprises, employees and society at large. Avoiding wastage of resources and the frustrations associated with underused human capacity while maintaining the flexibility that is necessary to enable individual qualities to readjust to needs that are constantly being redefined: that is one of the central problems of modern economies. It is a political problem in the true sense of the term, because the problems of imperfect information and of the incompatibility between the timescales that govern the production of skills and their consumption make it structurally impossible to find a solution based on reliable economic or social calculations.

Satisfying people's aspirations, rewarding their efforts and achieving economic development by deploying the main source of the wealth of nations – their human capital – is a great art and will never be reducible to economic models or, worse still, to economic planning.

This clearly does not mean that information about the system or reflection on future developments are worthless. On the contrary, it is essential to guide the system by advancing rational hypotheses on the future of society and on the durability of human skills. What it simply means is that we must refrain from postulating the existence of fixed, rigid chains of causation between the information that is collected, the decisions that are taken and the effects that are produced.

5.2 Skill: two producers, one product?

If we assume that an individual's skill (and its various components) undergo constant change, that this change is effected by the education system and/or the production system and/or simply by social interaction, it becomes necessary to consider the production of skills as a system of cooperation between the educational and the productive spheres. This cooperation is entirely intuitive and interactive. Each of the two systems establishes its strategy in response to the action of the other. Each acts on different information, but the information is subject to that same intrinsic unpredictability as soon as any attempt is made to adopt a long-term perspective.

We are confronted with a game which, despite occasional conflicts of interest, is globally cooperative by virtue of the durability of human beings and their participation in productive activity.

Their actions are sequential. The young person goes through the education system before entering the production system. This remains true even if it is possible to have one foot in each camp (apprentices or students with jobs) or to come and go between the two systems.

The components of the skill on which both systems work may be the same. They are often distinct. The purpose of the system of initial education is to produce individual skills which are durable and adaptable and which can be converted fairly easily into know-how as information about actual requirements crystallises. The production system creates concrete skills that are compatible with the effective operation of organisations at a known stage of technological progress. Complementary by nature, the two systems act in the framework of a division of labour and must therefore coordinate their efforts.

The transition from school to work, what we call the *insertion professionnelle* [vocational integration] in France, is a very special moment in the cooperation between the two systems as it is then that their strategies come into contact and undergo fine tuning.

It is also the moment when the differences between the interests of the two systems come into play. The fact is that the transition, i.e. the acquisition of the specific skills that were not produced during the young person's initial education, has its price, which each of the players tries to avoid paying. If it is company policy to operate an internal labour market, this will induce such companies to bear the brunt of the cost. As these policies are restricted or reversed, an increasing share of these costs is transferred to young people, who are compelled to take the sort of insecure jobs that are characteristic of the first years of a person's working life, and to the public authorities, which have to pay for support schemes and unemployment benefits.

The transition from school to work is the moment when the production system stocks up with 'semi-finished' products. At that precise moment, the production system has a customer/supplier relationship with the education system, and its normal behaviour as a customer is to try to obtain the best products at the lowest prices. It is in the company's interests to transform immediately and more or less intensely the skills it acquires at that moment.

It is not part of the task of enterprises to produce skills for themselves. The contribution of the production system to the creation of skill is therefore forced upon it to an extent. It only makes this contribution because, at a given moment, certain specific skills can be more efficiently produced in the enterprise. It may simply be a by-product of the work process. It is often a voluntary measure and is organised in the framework of a company's human-resource management policy in the expectation of higher productivity.

This remains true even when companies invest heavily in the training of their employees (under young-specialist programmes, for example). The level of its training investment may prompt a company to create an explicit training structure, more or less parallel to the traditional school and college system and totally disconnected from the company's productive activity. It is still true when the enterprise, through the various forms of apprenticeship, agrees to become directly involved in the initial education of young people.

In all of these cases, skill is regarded by the company as an intermediate good which must subsequently be turned to account in order to provide a return on the company's investment. Otherwise, the company will suffer a net loss or, to put it another way, will be subsidising its competitors.

The education system and the production system therefore have clearly differing positions in relation to the production of skills.

The aim of the education system is to allow everyone to fulfil his or her potential as far as possible. Though operating in a context of extremely imperfect information, it is required to adopt a long-term perspective. One of its aims will be to develop the framework skills that seem likely to prove durable and to provide the best basis for subsequent further training, whether explicit or implicit.

The production system only concerns itself with the creation of skills within the scope of its productive activity and is subject to the constraints that are imposed by that activity. Its action is determined on the basis of relatively complete and contextualised information. It perceives training as an intermediate activity, albeit an indispensable one in virtually all cases, but also considers it essential to minimise the cost of training.

This diversity of aims is reflected in a particular type of division of labour. The specific skills that the two systems try to foster on a priority basis are not the same ones (in general). Some skill components cannot be taught by the education system (implementing companies' in-house procedures, for example). Others, such as basic general knowledge, are clearly the domain of the public authorities and hence of the systems they administer.

5.3 Initial education: managing the unforeseeable?

The role and function of initial education appear to be highly complex. Its produces for the ultra-long term (the lifetime of individuals). The knowledge it disseminates will be used – in whole or in part – in a society about which there is little reliable information, the details of its future application of technology being practically a closed book. Once young people leave the education system, they will draw on what they have learned in order to expand and adapt their skills. The tactics they will employ to make these adjustments will depend on the jobs they do, on the environment that confronts them and on the network of relations they establish. These tactics will also be determined by the education they have received at school, which constitutes a stock of capital that is both irreversible and irreplaceable. The fact is that no individual can ever devote so much time to self-development as is done during the initial education process or ever forget absolutely everything he or she has learned at school.

Educationalists are well aware of the extreme difficulty of this exercise. There seems to be less such awareness among some others, who persist in trying to guide education systems on the basis of forecasts derived from projected trends in the production of goods and services. This approach, while recognisably logical in economic terms, is unsustainable outside a certain time frame, for it is quite obviously incapable of taking into account the complexity and endogenous nature of the mechanisms by which skill is produced in the medium or long term.

The existence of a horizon beyond which the systems' strategic policy can no longer be based on knowledge and has to rely on rational expectations reveals a sharp division within the raft of policies for the development of skills.

Some of these policies result in decisions whose impact on skill requirements is foreseeable, while the effects of other decisions lie outside our present field of vision.

In the first case, the producers of skill possess more or less perfect information about the nature and volume of demand for skills. In the second case, such information does not exist, nor could it. None the less, the future availability of skills is always on the agenda for the systems of initial education, since their mission is to provide training that will last a lifetime.

Two strategies compete to determine the nature of initial-training policies:

a) According priority to the familiar, i.e. training young people on the basis of familiar technology and adapting them to the present state of the market. This has the advantage of making the trainee more immediately effective and facilitating his or her integration into employment. The disadvantage of this approach is that it involves heavy investment in 'perishable' technology and transfers a greater part of the long-term management of knowledge away from the education system.

b) Embracing the unfamiliar. Attention is focused on sustainability, on skills that stand a good chance of being usable for a very long time, irrespective of short-term productive considerations. There is a danger that this attempt to facilitate the trainee's long-term adaptation will make it more difficult for the trainee to find work and will retard his or her inevitable accumulation of skill outside the education system.

Presenting these two approaches as alternatives is actually a distortion of reality. In fact, the legitimate aim of the education system is to equip young people with directly usable skills while endowing them with the qualities they need to maintain a high level of know-how throughout their working lives. It is difficult, however, to merge these two approaches, especially when the aim is to provide training that is applicable to everyone.

It is conceivable that in quite a few cases short-term adaptation and long-term development will prove to be incompatible to a certain extent. A number of cyclical adjustments to the definition of education policies in general and vocational-training policies in particular are due to the difficulty of choosing between two strategies: prioritising integration, thereby setting in motion the virtuous circle of skill creation through work experience, or providing long-term protection against skill obsolescence at the risk of retarding access to employment.

5.4 Lifelong learning: social measure or economic policy?

Lifelong learning, which was conceived as a dynamic means of adapting individual skill profiles to the needs of the production system, is not in itself a new idea. On the contrary, it represents a normal and stable means of ensuring that skills are produced and that the market operates smoothly. It is effectively the only way to reconcile changes in production levels, the integration of technological advances and organisational reform. The fact is that our societies have always managed to absorb technological and organisational changes just as they have managed to adapt to variations in production. What is relatively new and recent is the willingness of the public authorities to address the problem and to try and place explicit training (continuing vocational training in the present case) at the heart of the adaptation mechanism.

The concept of lifelong learning covers two distinctly different situations.

The first relates to marginal adjustments to clearly identified specific skills. Such fine-tuning, which is the key to the smooth and sustainable operation of the market, depends on the fulfilment of three conditions:

a) a clear training strategy, based on direct and thorough familiarity with the knowledge to be imparted or the behaviour patterns to be inculcated;

b) effective involvement of the trainee;

c) previously acquired skills, especially basic skills, that the trainee needs in order to follow his or her training programme; skills, of course, are not uniform in scope, and some skills are either impossible or too expensive for a company to modify.

If these conditions are met, companies may opt, on the basis of efficiency criteria, for either of two solutions: providing their staff with further training or letting them learn on the job at the expense of temporary reductions in productivity.

On the other hand, some members of the active population, young and not so young, are more or less totally excluded from social life and the pursuit of a career because of deficiencies in their basic skills. For that reason, efforts are being made in the domain of social welfare to make them more employable and to limit the impact of their exclusion, which entails a second type of adjustment. These measures are the subject of a government initiative. It is naturally very difficult for the public sector to plan measures that fulfil all three of the criteria we defined above.

807

6. Bibliography

Abowd J.M., Kramarz F., Lemieux T., Margolis D., 1997. *Minimum wages and youth employment in France and the United States*. NBER Working Paper, n° 6111.

Acemoglu D., Pischke J., 1998. Why Do Firms Train? Theory and Evidence. *The Quarterly Journal of Economics*, No 1, pp.79-119.

Adler P.S., 1987. Automation et qualifications. Nouvelles orientations. *Sociologie du travail*, No 3.

Ahamad B., Blaug M., 1973. *The practice of manpower forecasting*. Elsevier Scientific Publishing Company.

Alaluf M., 1992. Peut-on distinguer les classements techniques des classements sociaux de la qualification? *Formation-Emploi*, No 38.

Alaluf M., Stroobants M., 1994. La compétence mobilise-t-elle l'ouvrier? *Revue Européenne de la Formation Professionnelle*, No 1/94,

Alaluf M., 1991. La qualification: de quoi parle-t-on? *Revue Européenne de la Formation Professionnelle*, No 2.

Alba Ramirez A., 1993. Mismatch in the Spanish labor market, overeducation? *Journal of Human Resources*, Vol XXXVIII, No 2.

Alpin C., Shackleton J.R., 1997. Labour market trends and information needs: their impact on personnel policies. *Vocational Training*, No 12.

Amadieu J.F., Cadin L., 1996. *Compétences et Organisations Qualifiantes*. Economica, Paris, série gestion.

Aoki M., 1990. Toward an Economic Model of the Japanese Firm. *Journal of Economic Literature*, Vol. XXVIII.

Arrow K.J., 1973. Higher Education as a filter. *Journal of Public Economics*, No 2.

Autor H., Katz L.F., Krueger A.B., 1997. *Computing inequalities. How computers changed the labor market*. NBER Working Paper No 5956.

Aventur F., Mobus M., (ed.), 1996. *Formation Professionnelle Initiale et Continue en Europe*. Magnard Vuibert.

Barbier J.M., Berton F., Boru J.J., 1996. *Situations de Travail et Formation*. L'Harmattan, Paris.

Bartel A.P., Lichtenberger F., 1987. The Comparative Advantage of Educated Workers in Implementing New Technology. *Review of Economics and Statistics*, Vol.69, February1987, pp.1-11.

Bartel A.P., Sicherman P., 1995. *Technological Change and the Skill Acquisition of Young Workers*. National Bureau of Economic Research Working Paper No 5107, May 1995.

Bartram D., 1995. The recruitment and selection of young people by small businesses. *Journal of Occupational and Organizational Psychology*, 66, pp.339-358.

Bazen S., Martin J.P., 1991. L'incidence du salaire minimum sur les gains et l'emploi en France. *Revue Economique de l'OCDE*, No 16, pp.225-248.

Becker G.S., 1993. *Human Capital*, University Chicago Press. Third Edition, Chicago.

Beduwe C., Cahuzac E., 1997. Première expérience professionnelle avant le diplôme. *Formation-Emploi*, n° 58, pp.89-108.

Béduwé C., Espinasse J.M., 1995a. Productions de diplômes et diffusion des compétences. *Cahiers du LIRHE*, No 1.

Béduwé C., Espinasse J.M., 1995b. France: Politique éducative, amélioration des compétences et absorption des diplômés par l'économie. *Sociologie du Travail*, No 4/95.

Béduwé C., Espinasse J.M., 1996a. Concurrences entre générations et accès à l'emploi des jeunes. *Formation-Emploi*, No 55, pp.19-41.

Béduwé C., Espinasse J.M., 1997. *Certificates, skills, and job markets in Europe: a summary report of a comparative study conducted in Germany, Spain, France, Italy, The Netherlands and the United Kingdom*. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, 1996b. Reproduced in Werquin P., Breen J., Planas J., eds. Documents Séminaires No 120. CEREQ, pp.205-238.

Béduwé C., Giret J.F., 1999. Développement de la formation et marché du travail en Europe. *Revista de Educación*, No 318, pp.35-56.

Berman A.B., Bound J., Griliches Z., 1994. Change in the Demand for Skilled Labor within U.S. Manufacturing: Evidence from the Annual Survey of Manufacturers. *Quarterly Journal of Economics*, Vol. 109, pp.367-397.

Berndt E.R., Morisson C., Rosemblum L.S., 1992. *High-tech capital formation and labor composition in U.S. manufacturing industries: an explanatory analysis*. NBER Working Paper No 4010.

Berryman S., Bailey S., 1992. *The double helix of education and the economy*, Columbia University, N.Y.

Bishop J., 1998. Occupation-Specific versus General Education and Training. *Annals of the American Academy of Political and Social Science*, **559** (0).

Bjørnåvold J., 1997a. Assessment of non-formal learning: the quality and limitations of methodologies. *Vocational Training*, No 12.

Bjørnåvold J., 1997b. A question of faith? Methodologies and systems for assessing non-formal learning require a legitimate basis. *Vocational Training*, No 12.

Black S., Lynch L., 1996. Human capital investments and productivity. *Amercian Human Review*, **82** (2), pp.263-267.

Blair J.P., Stoley S., 1995. Quality competition and public schools. *Economics of Education Review*, **14** (2), pp.193-198.

Blaug M., 1970. *An Introduction to the Economics of Education*. Penguin Books. London.

Blaug M., 1993. Education and the employment contract. *Education Economics*, pp.21-33.

Blaug, M., 1999. What are we going to do about leavers? *In:* Bosh Font F., Hervas Gomez A., San Segundo Gomez M., eds. *Publicacion de las VIII Jornadas de la Associacion de la Economia de la Educacion*. Guadalajara, Spain, pp.25-34.

Bonnaz H., Courtot N., Nivat D., 1994. Le contenu en emplois des échanges industriels de la France avec les pays en développement. *Economie et Statistique*, No 279/280, pp.13-35.

Borghans L., De Grip A., Heijke H., 1996. Labor Market Information and the Choice of Vocational Specialization. *Economics of Education Review*, **15** (1), pp.59-74.

Borjas G., Freeman R., Katz L., 1991. *On the labor market effects of immigration and trade*. NEBR Working Paper No 3761.

Bouadballah K., Greenan N., Villeval M.C., 1999. Le biais technologique: fondements, mesures et tests empiriques. *Revue Française d'Economie*, pp.171-227.

Boudon R., 1973. *L'Inégalité des Chances*. Armand Collin, Paris.

Bound J., Jonson G., 1992. Changes in the structure of wages in the 1980s: an evaluation of alternative explanations. *American Economic Review*, **82** (3), pp.371-392.

Bourdet Y., Persson, 1994. *Youth unemployment and labour market policy in France*. Paper presented to the annual conference of the European Association of law and Economics (EALE), Warsaw, September1994.

Boyer R., 1994. Training and employment in the new producation models. *Science Technology Industry Review*, No 15, pp.105-131.

Bruno S., 1998. The missing gene: the quality factor. *Vocational Training*, No 13.

Cahuc P., Zylberberg A., 1996. *Économie du travail: la formation des salaires et les déterminants du chômage*. De Boeck Université, Balises.

Cahuc P., Granier P., Postel-Vinay F., 1999. Progrès technique, emploi et exclusion du marché du travail. *Revue Economique*, **50** (3), pp.405-416.

Carnoy M., 1982. Education, economy and the State. *In*: Apple, ed. *Cultural and Economic Contradictions in Education: Essays on Class, Ideology and the State*. Routledge and Keagan, New York/London.

Carnoy M., 1999. Globalización y reestructuración de la educación. *Revista de Educación*, No 318.

Carnoy M., Levin H., 1985. *Schooling and Work in the Democratic State*. Stanford University Press, Palo Alto, Calif..

Caroli E., Greenan N., Guellec D., 1997. *Organizational change and Human Capital Accumulation*. Cepremap paper No 9719.

Caroli E., Van Reenen J., 1998. *Human Capital and Organizational Change: Evidence from British and French Establishments in the 1980s and 1990s*. Working Paper.

Casal J., García M., Planas J., 1998. La lutte contre l'échec scolaire et sociale en Europe: paradoxes d'un succès. *Formation Emploi*, No 62, pp.73-86.

Castaño Collado C., 1994. *Tecnologia, Empleo y Trabajo en España*. Alianza Ed., Madrid.

Castells M., 1996. *The Information Age: Economy, Society and Culture. Volume I: The Rise of the Network Society*.Blackwell Publishers, Cambridge, Mass.

Castells M., 1997. *The Information Age: Economy, Society and Culture. Volume II: The Power of Identity*. Blackwell Publishers, Cambridge., Mass.

Castells M., 1998. *The Information Age: Economy, society and Culture. Volume III: End of Millennium*. Blackwell Publishers, Cambridge, Mass.

Castillo J.J., 1988. *Las nuevas formas de organización del trabajo*. Ministerio de Trabajo, Madrid.

Cedefop, 1995. *The role of the company on generating skills: the learning effects of work organisation. Synthesis report*. Cedefop, Thessaloniki (versions in English, French, German and Spanish).

Cedefop, Planas J., 1997a. *Raising the level of diplomas and their distribution on the labour market: the lessons of the past and prospects for the future*. Agora I, seminar in Thessaloniki, 30 June 1997.

Cedefop, Planas J., 1997b. *The Role of the Company in Lifelong Learning*. Agora II, seminar in Thessaloniki, 17 and 18 November 1997.

Cedefop, 1998a. *Training for a changing society*. Cedefop (ed. Tessaring M.), Thessaloniki, (versions in English, French, German and Spanish).

Cedefop, 1998b. *The role of the company in lifelong learning*. Cedefop Panorama, Thessaloniki. (versions in English and French).

Cedefop, 1998c. *Raising the level of diplomas and their distribution on the labour market: the lessons of the past and prospects for the future*. Cedefop Panorama, Thessaloniki, (versions in English, French, German and Spanish).

Cedefop, 1999. *Les bas niveaux de qualification sur le marché du travail: prospective et options politiques*. Cedefop, Thessaloniki, (versions in English, French, German and Spanish).

Cohendet P., Llerenan P., 1987. Productique et nouvelle représentation du processus de production. *In*: Coendet et al., eds. *La productique: concepts, méthodes, mise en fiuvre*. Economica, Paris, pp.15-38.

Commission of the European Communities: see 'European Commission'.

Coriat B., 1990. *L'atelier et le Robot*. Christian Bourgeois.

Cotis, Germain, Quinet, 1997. Les effets du progrès technique sur le travail peu qualifié sont indirects et limités. *Economie et Statistiques*, No 301/302.

CSERC, 1999. *Le SMIC, Salaire Minimum de Croissance*. La Documentation Française, 211 pp.

Davis S.J., 1992. Cross-Country Patterns of Change in Relative Wages', *NBER Macroeconomics Annual*, pp. 239-300.

Delavallee E., 1998. Le management par les compétences. *Personnel*, No 389, pp.12-17.

De Meulemeester J.L., 1992. Etude empirique de la demande d'enseignement universitaire en Belgique de 1954 a 1987. *Cahiers Economiques de Bruxelles*, No 133, pp. 21-72.

De Meulemeester J.L., 1995. Analyse de la relation formation-salaire pour les universitaires belges. *Cahiers-Economiques-de-Bruxelles*; 147, 3rd Trim., pp.325-383.

De Meulemeester J.L., 1996. Analyse de la relation formation-salaire pour les universitaires belges. *Cahiers Economiques de Bruxelles*, No 147, pp.325-383.

Denison E.F., 1962. United States economic growth. *Journal of Business*, Vol. 35.

D'Iribarne A., 1989. *La compétitivité: Défi social, Enjeu Educatif*. Presses du CNRS, 287pp.

D'Iribarne A., 1984. *Nouvelles technologies, qualifications, efficience productive et sortie de crise*. LEST Document No 84-4.

D'Iribarne A., 1996. A discussion of the paradigms of the White Paper on education and training: a contribution to the debate. *Vocational Training*, No 8/9.

810

D'Iribarne A., D'Iribarne P., 1999. *The French education system. Regulatory framework and institutional setting.* Contribution to the international conference on human-capital investments and economic performance, held in Santa Barbara, Calif., from 17 to 19 November1993. Also published in the *Vocational Training*, No 17,pp.27-39.

Divry C., Debuisson S., Torre A., 1998. Compétences et formes d'apprentissage: pour une approche dynamique de l'innovation. *Revue Française de Gestion*, No 118.

Doeringer P.B., Piore M.J., 1971. *Internal Labor Markets and Manpower Analysis.* Heath Lexington Books.

Dolado J., Kramartz F., Machin S., Manning A., Margolis D., Teuling S., 1996. Minimum Wages: the European Experience. *Economic Policy*, October1996, pp. 319-372.

Dormont B., 1995. *Looking for labour demand heterogeneity.* CREST Working Document No 9524, INSEE.

Dreze J.H., Malinvaud E., 1994. Growth and employment: the scope for a European initiative. *European Economy (Reports and Study)*, 1, pp.75-106.

Dubar C., 1994. Qualification. *In*: *Dictionnaire encyclopédique de l'éducation et de la formation*. Nathan.

Dubar C., 1996. La sociologie du travail face à la qualification et à la compétence. *Sociologie du travail*, No 2, pp.179-193.

Dupuy Y., Larré F., 1998. Entre salariat et travail indépendant, les formes hybrides de mobilisation du travail. *Travail et Emploi*, n°77, pp.1-14.

Dutrenit, J.M., 1997. *La compétence sociale -Diagnostic et développement*, L'Harmatan, Paris.

EDEX, 1999. *Educational Expansion.* Project presentation paper for the European Community programme in the field of targeted socio-economic research, administered by Directorate-General XII of the European Commission.

Eliasson G., Vikersjö K., 1997. Le recrutement dans une entreprise européenne. *Revue Européenne de Formation Professionnelle*, n°12, pp.15-20.

Entorf H., Kramarz F., 1994. *The Impact of New Technologies on Wages: Lessons from Matching Panels on Employees and on their Firms.* CREST Working Paper.

Espinasse J.M., 1997. *De la courbe enveloppe à la compétence minimale*, mimeo, LIRHE.

Espinasse J.M., Vincens J., 1998. *Diplômes et marchés du travail en Europe - phase III. Analyse comparative des salaires.* Cedefop synthesis report.

European Commission, 1992. *Skills Shortage in Europe*. IRDAC Opinion, Brussels.

European Commission, 1996. *European Skills Accreditation System*, Internal information memorandum, Brussels.

European Commission, Eurostat, Cedefop, 1997. *Chiffres Clés sur la Formation Professionnelle dans l'Union Européenne*. Office for Official Publications of the European Communities, Luxembourg.

Eymard-Duvernay F., Marchal E., 1997. *Façons de Recruter*. Centre d'Etudes de l'Emploi, Editions Metailié, Paris.

Favereau O., 1986. La formalisation du rôle des conventions dans l'allocation des ressources. *In*: Salais, Thévenot, eds. *Le Travail - Marchés, Règles et Conventions*. Economica, Paris, pp.249-261.

Feutrie M., Verdier E., 1993. Entreprise et formations qualifiantes: une construction sociale inachevée. *Sociologie du travail*, No 4.

Forgeot G., Gautié J., 1997. Insertion professionnelle des jeunes et processus de déclassement. *Economie et Statistique*, No 304/305, pp. 53-74.

Fourcade B., 1992. L'évolution des situations d'emploi particulières de 1945 à 1990. *Travail et emploi*, No 52.

Franchi G., 1984. *L'istruzzione Come Sistema*. Franco Angeli Ed., Milan.

Franchi G., 1992. *Istruzzione e Soggetti Sociali*. La Nuova Italia Editrice, Florence.

Freeman R., 1976. A Cobweb Model of the Supply and Starting Salary of New Engineers. *Industrial and Labor Relations Review*, **29** (2), pp. 236-248.

Freyssinet M., 1977. *La division capitaliste du travail*, Savelli, Paris.

811

Friedman M., 1997. Public schools: make them private. *Education Economics Review*, **3** (5), pp.341-344.

Galtier B., 1996. Gérer la main d'fiuvre des pratiques différenciées en renouvellement. *Economie et Statistique*, No 298, pp.45-70.

Garcia Serrano C., Malo Ocaña M., 1995. *Mismatch and international labour markets: evidence from Spain*, Working Paper, Universidad de Alcalá de Henares, Madrid.

Garrido L., 1991. *Perspectiva de las ocupaciones y la formación en la España de los noventa*. Ministerio de Economía y Hacienda, Madrid.

Gautié J., 1995. *Chômage des jeunes et politique active de l'emploi en France: du diagnostic à l'évaluation*. Thesis for a doctorate in economic science, University of Paris I.

Gazier B., 1993. *Les stratégies des ressources humaines*. La Découverte.

Géhin J.P., Méhaut P., 1993. *Apprentissage ou Formation Continue? Stratégies Educatives des Entreprises en Allemagne et en France*. L'Harmattan, Paris.

Gintis H., 1971. Education, technology, and the characteristics of worker productivity. *American Economic Review*, **61** (2), pp.266-279.

Giret J.F., Masjuan J.M., 1999. The diffusion of qualifications on the Spanish labour market. *Journal of Education and Work*, **12** (2), pp.179-199.

Glennester R.H., 1991. Quasi-Markets for education. *Economic Journal*, No 101.

Gollac M., Kramarz F., 1997. L'ordinateur, un outil de sélection? Utilisation de l'informatique, salaire et risque de chômage. *Revue Economique*, **48** (5), pp.1115-1143.

Goux D., Maurin E., 1995a. *Les transformations de la demande de travail par qualification en France. Une étude de la période 1970-1993*. Working Paper No G9505, INSEE, Département des Etudes Economiques d'Ensemble.

Goux D., Maurin E., 1995b. Le déclin de la demande de travail non qualifié, une méthode d'analyse empirique et son application au cas de la France. *Revue Economique*, **48** (5), pp.1091-1114.

Greenan N., 1996a. Innovation technologique, changements organisationnels et évolution des compétences. *Economie et Statistiques*, No 298, pp.15-34.

Greenan N., 1996b. Progrès technique et changements organisationnels: leur impact sur l'emploi et les qualifications. *Economie et Statistiques*, No 298, pp.35-44.

Greenan N., Guellec D., 1994. Organisation du travail, technologie et performances: une étude empirique. *Economie et Prévision*, No 113/114, pp 39-56.

Greenan N., Mairesse J., TopionBensaid A., 1999. Investissements immatériels, productivités et qualifications. *Revue Economique*, **50** (3), pp. 417-430.

Griliches Z., 1969. Capital-Skill Complementarity. *Review of Economics and Statistics*, November pp. 465-468.

Hamermesh D., 1993. *Labor demand*. Princeton University Press.

Hannan D.F., Raffe D., Smith E., 1996. Cross National research on school to work transitions: an analytical framework. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, published in 1997. *In*: Werquin P., Breen P., Planas J., eds. *Documents Séminaires n°120, CEREQ*, pp. 409-442.

Hilbert J., Webert H., 1997. La régulation de la formation professionnelle en Allemagne: une relation tripartite entre l'Etat, les corps intermédiaires et les entreprises. *In*: Möbus M., Verdier E., eds. *Les Diplômes Professionnels en Allemagne et en France*. L'Harmattan, Paris, chap. 6, pp.93-104.

Hoenack S.A., 1994. Economics, organizations and learning: research directons for the economics of education. *Economics of Education Review*, **13** (2), pp. 147-162.

Howel D.R., Wolff E.N., 1992. Technical change and the demand for skills by US Industries. *Cambridge Journal of Economics*, No 16, pp. 127-146.

Hutchmaker W., 1997. Key competencies in Europe. *European Journal of Education*, 32 (1), pp.45-58.

IFAC, 1998. *The measurement and management of intellectual capital: an introduction*. International Federation of Accountants, Study No 7, September, 26pp.

812

Inohara H., 1991. *Ressources Humaines dans les Entreprises Japonaises*, Eyrolles, Paris.

Jones S., 1987. Screening Unemployment in a Dual Labor Market. *Economic Letters*, Vol. 25.

Jones S., Wood S., 1984. Qualifications tacites, division du travail et nouvelles technologies. *Sociologie du Travail*, **26** (4), pp. 407-421.

Katz L., Murphy K., 1991. *Change in relative wages 1963-1987: supply and demand factors*. NBER Working Paper No 3927.

Kern H., Schumann H., 1989. *La fin de la division du travail? La rationalisation dans la production industrielle: l'état actuel des tendances*. Maison des Sciences de l'Homme, Paris, 417pp. Translation of *Das Ende der Arbeitsteilung?* Munich, 1984.

Kirsch E., 1990. L'entreprise formatrice. *In*: CEREQ, *BREF (Bulletin de Recherche sur l'Emploi et la Formation)*, No 60, December.

Köhler H.D., 1999. Las relaciones laborales españolas en el marco europeo. *In*: Migulez F., Prieto C., *Las relaciones de empleo en España*. Siglo XXI, Madrid, pp.399-432.

Krugman P., Lawrence R., 1993. *Trade, Jobs and Wages*. NBER Working Paper No 4478.

Lagarde S., Maurin E., Torelli, 1994. Créations et suppressions d'emploi en France: une étude de la période 1984-1992. *Economie et Prévision*, No 113/114, pp 67-88.

Lancaster K., 1966. A new approach to consumer theory. *Journal of Political Theory*, **74**(2), pp.132-157.

Lawrence R., Slaughter M., 1993. *International trade and American wages in the 1980's: giant sucking sound or small hiccup*. Brooking Papers: Microeconomics, n°2.

Lazear P., 1995a. Unconventional view of labor markets. *American Economic Review*, **85** (2), pp. 260-265.

Lazear P., 1995b. *Personal Economics, The Wicsell lecturds*, Cambridge, MA: MIT Press.

Lee K.H., 1986. Affective, cognitive, and vocational skills: the employers' perpective. *Economics of Education Review*, **5** (4), pp.395-401.

Legrand-Lafoy L., Roussillion S., 1995. Vous avez dit compétences. *Personnel*, No 363, pp. 11-13.

Léné A., 1998. La production d'adaptabilité: stratégies d'entreprise et compétences transversales. *In*: Stankiewiscz F., ed. *Travail, compétences et adaptabilité*. L'Harmattan, Paris, pp.211-234.

Lescure R., L'Horty Y., 1994. Le chômage d'inadéquation en France: une évaluation. *Economie et Prévision*, n° 113-114, pp.139-154.

Levin H., Rumberger R., 1989. Education, travail et emploi: questions actuelles et défis futurs pour les pays développés. *In*: International Institute for Eucational Planning (IIPE), ed. *Les Perspectives de Planification de l'Education*. UNESCO, pp.221-260.

Levy F., Murname R., 1992. US earnings levels and earning inequality: a review of recent trends and proposed explanations. *Journal of Economic Literature*, Vol. XXX, pp. 1333-1381.

Lévy-Garboua L., 1994. Formation sur le tas et rendements de l'expérience: un modèle de diffusion du savoir. *Economie et Prévision*, No 116, pp. 79-89.

Lichtenberger Y., 1999. Compétence, organisation du travail et confrontation sociale. *Formation-Emploi*, No 67, pp.93-108.

Lindbeck A., Snower D.J., 1996. Reorganization of firms and labor market inequality. *American Economic Review*, **86** (2), pp.31-321

Llorens C., Martí J., Verd J.M., 1996. El debat sobre formació. *Revista Catalana de Sociologia*, 2/96, pp.51-82.

Lope A., 1994. *Innovació tecnològica: Ocupació, gestió de la mà d'obra i canvis organitzatius a les empreses*. Fundació Jaume Bofill, Barcelona.

Lope A., Miguelez F., Ros A., 1992. *Innovació tecnològica i mà d'obra*. Fundació Jaume Bofill, Barcelona.

Lundvall B.A., 1997. *Development Strategies in the Learning Economy*. Paper submitted at STEPI's 10th Anniversary Conference in Seoul, May 26-29.

Lundvall B.A., Borrás S., 1997. *The globalising learning economy: implications for innovation policy*. European Community targeted socio-economic research programme, Directorate-General XII of the European Commission.

Maillard B., Sneessens H., 1994. Caractéristique de l'emploi et du chômage par catégories socioprofessionnelles: France 1962-89. *Economie et Prévision*, No 113/114, pp. 113-127.

Mallet L. et al., 1997. Certificates, skills and job markets in Europe. *Vocational Training*, No 12.

Marengo L., 1995. Apprentissages, compétences et coordination dans les organisations. *In*: Lazaric, Monnier, eds. *Coordination et Apprentissage des Firmes*. Economica, Paris, pp.38-49.

Marsden D., 1989. *Marchés du Travail: Limites Sociales des Nouvelles Théories*. Economica, Paris.

Marsden D., 1994. Mutation industrielle, compétences et marchés du travail. *Revue Européenne de la Formation Professionnelle*, No 1, pp.15-23.

MartinArtiles A., 1999. Organización del trabajo y nuevas formas de gestión laboral. *In*: Miguelez F., Prieto C., eds. *Las relaciones de empleo en España*. Siglo XXI, Madrid, pp. 79-100.

Maskell P., 1996. *Localised low-tech learning in the furniture industry*. DRUID Working Paper No 96-17, Department of Industrial Economics and Strategy, Copenhagen Business School

Méhaut P., Delcourt J., 1995. *Le rôle de l'entreprise dans la production des qualifications*. Synthesis report, Cedefop document.

Merle V., 1997. The evolution of systems of validation and certification: what are the possible models and what are the issues for France? *Vocational Training*, No 12, pp.37-49.

Miguelez F., Prieto C., 1999. *Las relaciones de empleo en España*. Siglo XXI, Madrid, pp. XIII-XXVI.

Milgrom P., Roberts J., 1990. The Economics of Modern Manufacturing: Technology, Strategy, and Organization. *American Economic Review*, **80** (3), pp.511-528.

Mincer J., 1989. Human capital and the labor market, a review of current research. *Educational Research*, pp.27-34.

Mincer J., 1991. *Education and unemployment*. NBER Working Paper No 3838.

Möbus M., Verdier E., 1997. *Les Diplômes Professionnels en Allemagne et en France*. L'Harmattan, Paris.

Moncel N., 1997. *Profils sectoriels de gestion de la main d'fiuvre: quelles conséquences pour l'emploi des jeunes*. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, 1996. Reproduced in Werquin P., Breen P., Planas J., eds., *Documents Séminaires*, No 120. CEREQ, pp. 135-161.

Murphy K.M., Welch F., 1989. Wage Premiums for College Graduates. *Educational Researcher*, May1989, pp.17-26.

Nelson R., Phelps E., 1966. Investment in humans, technological diffusion, and economic growth. *American Economic Review*, **56** (2), pp.69-75.

Nelson R., Winter S., 1982. *An Evolutionary Theory of Economic Change*. Belknap Press.

Neumark D., Washer W., 1995. *The Effects of Minimum Wages on Teenage Employment and Enrollment: Evidence from Matched CPS Surveys*. NBER Working Paper No 5092.

Nonaka I., 1993. A dynamic theory of organisational knowledge creation. *Organisational Science*, **5** (1).

Nordhaug O., Gronhaug K., 1994. Competences as resources in firms. *International Journal of Human Resources Management*, 5/1, pp.89-106.

OECD, 1994. *L'étude de l'OCDE sur l'emploi* (two volumes). Paris.

OECD, 1996. *Mesurer le Capital Humain: Vers Une Comptabilité du Savoir Acquis*. Paris.

Orléans A., 1986. Le rôle des conventions dans la logique monétaire. *In*: Salais, Thévenot, eds. *Le Travail – Marchés, Règles et Conventions*. Economica, Paris, pp.219-238.

Perkins D.N., Salomon G., 1989. Are cognitive skills context-bound? *Educational Research*, **18** (1), pp.16-25.

Petit P., 1988. *La croissance tertiaire*. Economica, Paris.

Petit P., 1995. Technologie et emploi: questions clés dans un contexte de chômage élevé. *STI Revue*, No 15, OCDE, pp.13-52.

814

814

Petit P., 1998. *Travail et emploi dans une économie fondée sur le savoir*. Paper presented to the European Commission – University of British Columbia Colloquium, Vancouver, November 1998.

Planas J., 1990. Formal Education, informal education and training activities in the integration of young people into working life. *European Review of Vocational Training*, No 1.

Planas J., 1996. Continuing training for young adults – follow-on or second chance? *Vocational Training*, No 8/9, December 1996.

Planas J., 1999. School-to-Work Transition in Spain. *In*: Stern D., Wagner D.A., eds. *International Perspectives on the School-to-Work Transition*. Hampton Press, New Jersey.

Rapple B.A., 1992. A Victorian experiment in economic efficiency in education. *Economics of Education Review*, **11** (4), pp.301-316.

Recio A., 1999. La segmentacion del mercado laboral en España. *In*: Miqueles, Prieto, ed. *Las relaciones de empleo en España*. Siglo XXI, Madrid, pp.125-150.

Regini M., 1995. *La formazione delle risorse umane nelle regione motore*. Il Mulino.

Rosenbaum J.E., Binder A., 1997. Do employers really really need more educated youth? *Sociology of Education*, **70** (1), pp. 68-85.

Rosen S., 1972. Learning and experience in the labor market. *Journal of Human Resources*, **7** (3), pp.326-342.

Sachs J.D., Shatz H.J., 1994. Trade and Jobs in U.S. Manufacturing. *Brookings Papers on Economic Activity*, pp. 1-81.

Sansegundo, 1993. Las inversiones educativas y el cambio técnico: 1980-1992. *Revista de Economía y Sociología del Trabajo*, No 19-20, pp.84-96.

Siow A., 1984. Occupational choice under uncertainty. *Econometrica*, 52, pp.631-645.

Sneessens H., Shadman-Mehta F., 1995. Skill mismatch, real wages and unemployment persistence. *Annales d'Economie et de Statistiques*, n° 37-38, pp. 255-292.

Soskice D., Hancke B., 1997. De la construction des normes industrielles à l'organisation de la formation professionnelle: une approche comparative. *In*: Möbus M., Verdier E., eds. *Les Diplômes Professionnels en Allemagne et en France*, L'Harmattan, Paris, chap. 15, pp. 245-262.

Spenner I.K., 1985. The upgrading and downgrading of occupations: issues, evidence, and implications for education. *Review of Educational Research*, **55** (2), pp.155-200.

Spence M., 1974. *Market Signaling: Informational Transfer in Hiring and Related Screening Processes*. Harvard University Press.

Stankiewicz F., 1995. Choix de formation et critères d'efficacité du travail. Adaptabilité et financement de la formation générale par l'entreprise. *Revue Economique*, **46** (5), pp.1311-1331.

Stankiewicz F., ed., 1988. *Les stratégies d'entreprises face aux ressources humaines. L'après-taylorisme*. Economica, Paris.

Steedman H. L'évolution de la demande de faibles qualifications en Europe. *In*: Cedefop. *Tendances européennes en matière de Professions et de Qualifications*, Cedefop Agora (scheduled for publication in 1999).

Stiglitz J., 1987. Learning to learn, localized learning and technological progress. *In*: Daggupta P., Stoneman P., eds. *Economic Policy and Technological Performance*. Cambridge University Press, pp.123-153.

Stoeffler-Kern F., Tchibozo G., 1999. Signaux non standards et insertion professionnelle. *In*: Degenne, Lecoutre, Lièvre, Werquin, eds. *Insertion, Transition Professionnelle et Identification de Processus*, Documents Séminaires n° 142, pp.351-360.

Storey J., ed., 1995. *Human Resource Management*. Routledge, London and New York.

Stroobants M., 1993. *Savoir-Faire et Compétences au Travail, une Sociologie de la Fabrication des Aptitudes*. Edition de l'Université de Bruxelles, Brussels.

Suppiot A., 1994. *Critique du Droit du Travail*. PUF, Paris.

Tanguy L., ed., 1985. *L'Introuvable Relation Formation / Emploi*. La Documentation Française, Paris.

Tassinopoulos A., Werner H., 1998. *Mobility and migration of labour in the EU*. Contribution to Agora Seminar held in Thessaloniki 1998.

Thurow L.C., 1975. *Generating Inequality*. Macmillan Press.

Vaniscotte F., 1996. *Les Ecoles de l'Europe, Horizons pour la Formation*. Editions INRP et IUFM de Toulouse.

Veltz P., Zarifian P., 1993. Vers de nouveaux modèles d'organisation. *Sociologie du Travail*, No 1/93, pp.3-25.

Vinokur A., 1995. Réflexions sur l'économie du diplôme. *Formation-Emploi*, No 52, pp.151-181.

Vinokur A., 1999. *Global and Local Tendencies in the Restructuring of Educational Systems*. TACIS: EDRUS (Education Management in Russia) Ressearch Seminar, Moscow 15-19 December 1998. Published as mimeograph.

Welch F., 1970. Education in production. *Journal of Political Economy*, **78** (5), pp.764-771.

Wolf A., 1994. La mesure des «compétences»: l'expérience du Royaume-Uni. *Revue Européenne de la Formation Professionnelle*, No 1/ 94.

Wood A., 1994. *North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World*. Clarendon Press, Oxford.

Zarifian P., 1988. L'émergence du modèle de la compétence. *In*:Stankiewicz F., ed. *Les stratégies d'entreprises face aux ressources humaines. L'après-taylorisme*. Economica, Paris, pp.77-82.

Zarifian P., 1995. Le modèle de la compétence: une démarche inachevée. *Le Monde* (opinion column), 1 March1995.

Zarifian P., 1997. La compétence, une approche sociologique. *L'Orientation Scolaire et Professionnelle*, **26** (3), pp.429-444.

Zarkin G.A., 1983. Cobweb versus rational expectations models. *Economic Letters*, No 13, pp. 87-95.

Economic performance of education and training: costs and benefits

Alan Barrett

Abstract

One of the most fundamental principles in economics is that resources should be allocated to ensure the highest possible return. It is not sufficient that an investment yields a positive return; efficiency in the allocation of resources requires that the highest return is derived from a particular investment. While such thinking forms the cornerstone on which investments in financial assets are made, its application in the area of human capital investment is less well established.

Many papers have been written which seek to measure the benefits of education and training but very few have attempted to relate costs and benefits. This paper explores the issue of empirically estimating the return to education and training. Concerning the benefits of education and training, three types of research works are distinguished. The first group looks at how the earnings of individuals with greater amounts of training differ from those with less training. The second group looks at how firms that offer higher amounts of training differ from other forms in terms of productivity growth. The third set of papers is concerned with how growth rates across countries can be related to differences in investment in education. In addition, the concept of market failure can be employed to illuminate our concerns in this area.

817

Table of contents

1. Introduction 385

2. Individuals and wages 385

3. Firms and productivity 389
3.1 Different forms of training 392

4. Economic growth and education 393
4.1 Recent theory of economic growth 393
4.2 The empirics of economic growth 395

5. Discussion 398
5.1 Implications for research 398
5.2 Implications for policy 400

Appendix 402

Bibliography 403

813

1. Introduction

One of the most fundamental principles in economics is that resources should be allocated to ensure the highest possible return. It is not sufficient that an investment yields a positive return; efficiency in the allocation of resources requires that the highest return is derived from a particular investment. While such thinking forms the cornerstone on which investments in financial assets are made, its application in the area of human capital investment is less well established.

Given Becker's theoretical formulation of education and training in terms of an investment model, the relative underdevelopment of the empirical side of the investment approach to human capital is perhaps somewhat surprising. Many papers have been written which seek to measure the benefits of education and training but very few have attempted to relate costs and benefits. The term 'returns to education' is frequently used in papers that look at how extra years of schooling are rewarded in the labour market but the use of the term is misleading. By 'return', the authors usually mean the coefficient on years of schooling in a Mincer-type earnings equation. Such a measure says nothing about how the benefits of education are related to the costs so they leave us without a true measure of 'return', correctly defined.

In this paper, I will explore the issue of empirically estimating the return to education and training. I will look at a selection of papers that have attempted to measure the benefits of education and training. The papers I focus on are of three types. The first group of papers looks at how the earnings of individuals with greater amounts of training differ from those with less training. The second group looks at how firms that offer higher amounts of training differ from other firms in terms of productivity growth. The third set of papers is concerned with how growth rates across countries can be related to differences in investment in education. I will not consider papers that look at how earnings of individuals differ with years of schooling; such papers are numerous and comprehensive reviews are offered elsewhere.

Throughout the review of the papers, I will assess the difficulty of estimating reliable rates of return to education and training. An enumeration of the difficulties provides a clue as to why such estimation is rarely carried out in the form of estimating properly defined rates of return. I will make a proposal on how more robust rate of return estimates could be made but the issue remains of whether research effort can be most usefully devoted to refining our efforts in estimating returns or to approaching the issue from a different perspective. I will briefly suggest how the concept of market failure can be employed to illuminate our concerns in this area.

2. Individuals and wages

I mentioned in the introduction that many studies have measured the benefits of additional years of schooling by estimating Mincer-type wage equations and including a measure of schooling. The studies that I will discuss in this subsection apply a similar approach and use a measure of training received as an explanatory variable in the wage equation.

Before looking at the studies, it is worth thinking about what precisely is being estimated through the use of a wage equation and how the estimated effects relate to the notion of a rate of return. By including a measure of training in a wage equation, the wage difference associated with different levels of training is estimated. The precise interpretation of the estimate depends on the measure of training used. Often, some measure of time spent in training is used so the estimated coefficient on training can be interpreted as the effect of an extra unit of time spent in training on wages.

While this quantity is of interest, it is not a rate of return in the strict sense of the word. For a rate of return to be estimated it would be necessary to calculate the costs of the training and the benefits. While the wage equation provides an estimate of one benefit, there

are benefits to the employee from training other than a wage increase. Let us consider both the costs and benefits in turn.

If we are interested in the individual's return on training, then we must focus on the costs incurred by the individual. Where the employee pays out-of-pocket expenses, that element of the costs is readily identifiable and quantifiable. Beyond that, however, matters get complicated. We know from Becker's work that employees may incur training costs through reduced wages. The difficulty in trying to measure the cost that the worker incurs in this case arises because we do not know what the employee's wage would have been in the absence of the training. Similarly, if the worker undertakes training in his/her own time, we do not know how to place a value on that time which could be spent doing other things. Finally, if the employer incurs the full cost of training and the worker receives some benefit, it would appear that the rate of return from the perspective of the employee is infinite. In this situation, it would clearly be desirable to calculate some sort of combined return across the employee and the employer.

While the wage increase associated with training is clearly a benefit to the employee, it is unlikely to be the only benefit – if a comprehensive rate of return is to be calculated, other benefits should ideally be valued and included in the calculation. Clearly, this is far from simple. The provision of training reduces the likelihood that someone will suffer unemployment. This means that training increases lifetime earnings for a reason other than the increase in wages. Calculations that simply look at the wage increase at a point in time miss this element but it could be quantitatively important. Another benefit from training is the increased job satisfaction that we associate with being better able to perform a task or with the increased responsibility that training can lead to. While this is another important benefit of training, its quantification is difficult and so its inclusion in a rate of return estimate is problematic.

The valuation and calculation of the full costs to the individual and the full benefits would be required if a true estimate of the rate of return were to be calculated. No studies have done this so let us look at the studies that have at least looked at the wage effects of training. Such studies are at least a start on the road to rate of return estimates. I will explore their usefulness in contributing to rate of return calculations and will end the section by suggesting how they might be expanded.

Booth (1991) uses a large-scale British data set from 1987 in measuring the benefits of training. While she finds a positive effect of training on wages, especially for women, the measure of training used provides a first insight into the difficulty of reliably estimating a rate of return to training. The information on training is provided by the individuals recalling the amount of training they received in the past two years. While asking people to recall what qualifications they have received is unlikely to cause too much difficulty, a question would have to be asked about how reliable responses can be when recalling training. In the case of '*formal* job-related training courses' the individuals were asked to recall how many days of training they received. In the case of *informal* training, the individuals were only asked to recall if they had received any such training across a range of categories in the last two years. The information on informal training is likely to be more reliable but because of its crudeness, it would be less useful in estimating a rate of return. Even in the case of the information on formal training, while the number of days of training may contain some information on training intensity it is far from perfect.

A paper similar in style to Booth (1991) is Lynch (1992). She uses a data set that was generated in the United States. A large group of young people was interviewed each year between 1979 and 1983; in each interview they were asked about the amount of training they had received that year, along with questions on wages and other aspects of their labour market experience. Given that the individuals are recalling their training in the current year and not over two years, as was the case in Booth (1991), it is likely that her measure of training is more reliable.

820

The value in Lynch's paper comes not from a better effort at estimating the rate of return to training. Instead, she uncovers some interesting results about the relative impact of training received with the current employer and with a previous employer. Off-the-job training with either the current or a previous employer is observed to lead to higher wages for the individuals involved. However, on-the-job training with a previous employer is not rewarded by current employers. The immediate question that this gives rise to is why one form of training is recognised and valued by current employers while the other is not. One possible explanation is that the nature of the off-the-job training provided by a previous employer may be more readily observable to a current employer. This would be true if the off-the-job training was provided in a structured way whereby a certificate was awarded.

A related issue concerns the implications of Lynch's findings for the investment decisions of individuals and firms. The finding that the training provided by one employer is rewarded by another implies that the original employer is not capturing all the return to the training investment. For this reason, while the original employer may have been prepared to provide the training, he/she will not have paid for it. The individual would have had an incentive to pay for the training, as they are reaping the benefit even though they have moved to a new employer. The opposite holds in respect of the on-the-job training. As there is no wage gain with a new employer, an employee who might consider moving has no incentive to invest in on-the-job training. Clearly, these are the types of issues that Becker brought to the fore in discussing general and specific training. As regards rate of return estimation, the issue implied is that a correct assessment of training benefits requires a knowledge of to whom the benefits accrue and an ability to measure benefits even when they are spread across employers.

Before leaving Lynch's paper, two additional points should be made. First, it must be emphasised that her paper has great value in pursuing its objective of uncovering the relative impacts of training provided by the current and previous employer. However, as part of our general interest in the rate of return to training, we can ask how far it gets us in that context. Recall that what has been estimated is how wages respond to training inputs. There is no information provided on the costs of the training so a rate of return calculation is not possible. Also, a wage increase represents only part of the payoff for training. If productivity has increased more rapidly than any wage increase, the employer has appropriated some of the benefit. For this reason, a focus on wage increases may understate the full impact of training.

The second point concerns the issue of mobility of employees between firms. As discussed, one of the important issues in the economics of training is the extent to which trained employees take their skills and move elsewhere. Two concerns arise. First, employers are less likely to provide training if they think workers will leave. Second, if workers build up skills that are specific to one firm, the value of these skills is then lost when they move elsewhere. In this way, the economics of training sees costs of mobility and so a limited reading of the literature might leave someone with the conclusion that mobility was undesirable.

A broader reading of labour economics points to the benefits of employee mobility between employers and so counteracts the view that might emerge from the training literature. As discussed in Filer et al. (1996), economic efficiency requires that employees sort themselves into jobs where they are most productive. Often, employees cannot know where they will be most productive so an element of 'job shopping' can occur whereby they try a number of positions by way of gathering information. Even if employees have found their most productive position at one point in time, demand shifts across occupations can result in different jobs becoming better matches so again, mobility is economically beneficial.

In addition to the theory in this area some empirical studies have shown the value to individuals of mobility across jobs. For example, Bjorklund and Holmlund (1989) have shown that wage gains from changing jobs in Sweden were 2% while research in Canada has shown increases of 9% (Abbott and Beach

1994; Abbott et al. 1995). Assuming these wage gains result from employees finding themselves in positions where they are more productive, there is clearly an efficiency gain in them moving. Even if they have lost the use of some specific human capital, the loss is more than offset by the productivity gains. The concern remains, however, that the first employer loses whatever investments they have made in the employee and hence the employer may not make such investments.

The issue of the effects of training on wages and productivity is addressed in Bishop (1994). This paper again looks at the impact on the wages of individuals of training but because the data was generated at the level of firms, Bishop is able to go beyond the analysis of both Booth (1991) and Lynch (1992). He uses two data sets, both of which contain information provided by employers on two of their recent hires. By tracking the two individuals across a large number of firms and by assessing how the experiences of the two differ in terms of training received, wage growth and job performance, Bishop is able to measure the impact of training not just on wages but also on productivity.

One possible advantage of Bishop's measure of training is that it is the employers' estimates of the amount of training. In the cases of both Booth (1991) and Lynch (1992), it was the individuals who had provided the information. As employers are more likely to have kept records, it is likely that their information will be more accurate than that of the individuals who rely on memory. Bishop adds to the reliability of his training measure by going beyond the 'days measure' used by Booth and others. He creates a 'training-time index' by multiplying the amount of time spent in training by the value of the time. The value of the trainee's time is taken to be their wage rate; the value of any time devoted by another employee to the training of the trainee is also factored in according to their wage rate. In this way, Bishop produces a measure of training input that goes much further towards being an ideal measure.

Bishop's main finding is that training raises productivity more than it raises wages. This is enormously important because it shows that attempting to estimate the full return on training by observing wage increases will lead to an underestimate of the return to training. Similar to Lynch (1992), Bishop also finds an effect of training provided by a previous employer in the current workplace. While Lynch's findings were restricted to wage effects, Bishop demonstrates that previously acquired training increases productivity with the current employer. As noted when discussing Lynch (1992), this implies that some employers benefit from the training investments of others; as those who paid for the training are not recouping the full benefit, there is a reduced incentive for investment in training.

Before leaving papers that have looked at the effects of training on the wages of individuals, I want to draw attention to an important point that is emphasised by Groot et al. (1994). In estimating the effect of training on individuals' wages, it is usual to look at a sample of people and to look at how much more is earned by those with more training, controlling for other factors that influence wages. When looking at the results that emerge, it must be remembered that training is not distributed randomly across the population. Instead, those who are likely to benefit from training are likely to acquire more of it. This could be because they choose themselves to train more or because an employer sees their potential and provides them with more training relative to less able employees. Either way, any observed relationship between training and wages may partly reflect the greater propensity to train by those who will use it best. The random distribution of training would produce a smaller relationship between training and wages.

As regards the estimation of the rate of return to training, an analysis of training benefits that does not take account of this 'self-selection' issue could seriously overstate the rate of return to training that would apply to a random selection of people. Groot et al. (1994) find for their sample that there would be no benefit from training for those who did not participate, had they participated, so the issue is a real concern. Statistical techniques are available to overcome the difficulty so in some senses this particular problem is less of

a concern when it comes to the estimation of rates of return to training. Nevertheless, it is important that researchers are aware of the difficulty and are sufficiently competent with the techniques to overcome it.

I began this section by pointing out that the studies I was about to explore were limited as regards making rate of return calculations. The crucial omissions are the failure to relate costs and benefits and the failure to measure benefits in a broader manner. I return to this issue below when I consider how work in this area can be expanded.

3. Firms and productivity

I now want to consider the returns to training from the perspective of the firm. I will follow a similar approach to the one just adopted in the case of individuals. I will firstly ask what would I ideally like to see measured and will then look at what the studies have actually explored. As with the case of individuals, it will be seen that the existing work is some distance from what we would like.

It seems reasonable to say that individuals' interest in training may be multifaceted, in the sense that they may undertake training in the hope of getting a wage increase, reducing their chances of unemployment or improving their job satisfaction. However, in the case of firms the interest in training is likely to be more narrowly focused on increasing profitability. It may be true that some firms have a sense of social responsibility or, in the case of family-run firms, an interest in providing employment. In most cases, however, firms' primary concern is in making profits. As such, the rate of return calculation of greatest interest to firms should be the increased profitability that arises from spending on training.

The route through which training increases profitability can be multifaceted. The most direct link would be the increase in each worker's productivity that comes about through training. Another link between training and profitability would arise if training improved job satisfaction among employees. Productivity could increase because the increased satisfaction of the employees leads them to work harder or because of a reduced tendency to quit. In estimating the effect of training, these effects would be of interest but in estimating the underlying rate of return, these 'intermediate' effects can be captured by looking at profitability.

In this subsection, I will consider some of the studies which, in addition to Bishop (1994) mentioned above, have attempted to measure the effect of training on productivity by drawing on samples of firms. Although profitability would capture more directly the return to training for companies, little work has been done on that angle. As with the previous discussion of individuals and wages, it will be seen that while the studies are of value, they do not try to estimate the rate of return to training, thereby leaving a gap.

One of the earliest studies to look directly at the link between training provided by companies and subsequent productivity growth in those companies was Holzer et al. (1993). They generated a data set from a number of companies that applied for training grants under a programme run by the state government of Michigan. They found that training did lead to productivity growth but the methodological details are of greatest interest so I will consider some of these.

The first methodological issue is the point on self-selection, discussed already in the context of Groot et al. (1994). The first selection issue arises from the fact that all the firms in the sample had demonstrated an interest in training through applying for a grant (even though not all firms were actually awarded a grant). Holzer et al. maintain that this will produce a downward bias in their estimated effect of training on firm performance. As they are more interested in uncovering an effect of training, rather than in precisely measuring it, they are unconcerned about this bias. Clearly though, were a rate of return estimate to be made, this difficulty could not be ignored. The second selection issue arises because the firms who respond to the survey are not necessarily a random draw from the full sample. In particular, firms who had a positive experience of a programme are more likely to re-

spond to a survey about that programme. Although the authors explore this second selection issue to a degree, they do not employ any statistical techniques to overcome it, largely because some more casual observation leads them to believe that it is not a large problem.

The second methodological issue concerns the time period of analysis. If an analysis were conducted in which training provided in a particular year was related to productivity in the same year, the estimated relationship would almost certainly be biased. It could be that the most productive firms could afford to undertake more training, whereby the causation ran from productivity to training. This would produce an upward bias in the measured effect of training. It could also be that some firms had unobservable characteristics that lead them to be more productive and to provide more training. For example, if firms have good managers, it could be that they have positive impacts on productivity and training. A regression analysis will produce a positive estimate of the effect of training on productivity but clearly this may be a false conclusion. At least partly to overcome this difficulty, Holzer et al. estimate the effect of training on subsequent productivity growth. To do this, it is necessary to have information on the firms at two points in time. While this might seem like a simple requirement, in practice it can cause difficulties. There is the added expense of surveying companies at two points in time or the added complications that arise by surveying them once and asking for retrospective information.

An additional methodological issue that arises in the Holzer et al. paper concerns the measurement of productivity. Rather than using some measure of output per worker, the authors rely on what they describe as their most reliable measure of the quality of output, the scrappage rate. This is the proportion of items that must be scrapped because of faults. There is clearly of value in estimating whether training has the effect of reducing the scrappage rate but this is a long way from measuring productivity effects. The scrappage rate could be reduced if all employees worked more slowly; this in turn could actually reduce productivity.

Finally, Holzer et al. use annual hours of training per employee as their measure of training. I have already discussed under Bishop (1994) that measures of training need to be cost-based if a rate of return calculation is to be undertaken. Simply looking at hours tells us little about cost as I do not know if expensive instructors were hired, if expensive equipment was used and what the value is of the foregone time of the trainees.

I noted above in the context of another paper that the deficiencies I am pointing out with regard to rate of return estimates are not necessarily criticisms of papers. Holzer et al. were not trying to estimate a rate of return so it would be unfair to criticise them on that basis. My interest in discussing their methodology is based on the notion that the estimation of the benefits of training, which must underpin a rate of return estimate, would be based on a methodology similar to the one they use.

A paper similar to that of Holzer et al. is Bartel (1994). Like Holzer et al., her approach is based on the idea of estimating in a regression context the relationship between training and productivity. Her paper is an interesting contrast with the earlier paper in terms of its data strengths and weaknesses. Bartel's measure of productivity is much more direct than the scrappage rate; it is based on sales per employee which is clearly much closer to the ideal concept of productivity or output per worker. However, her measure of training is much weaker than that used by Holzer et al. For each of the companies in her sample, the workforce is divided into seven categories. The data provide information on what proportion of these seven categories receive some sort of training in each of the companies and this is Bartel's measure of training intensity. This is much weaker than Holzer et al.'s measure. Bartel again finds a positive relationship between training and productivity growth but her work clearly leaves us a long way from a rate of return measure.

The data limitations that characterise the papers of Holzer et al. and Bartel have more recently been overcome to some degree in a series of papers by Sandra Black and Lisa Lynch (Lynch and Black 1995; Black and

824

Lynch 1996, 1997). As the authors describe, the data set that they use 'was designed to overcome some of the limitations of previous studies and to collect more precise data on human-capital inputs and establishments'. One dimension along which the Black and Lynch data are superior is the number of observations. Whereas Holzer et al. and Bartel had data sets with around 250 observations, Black and Lynch have information on 1,621 manufacturing companies and 1,324 non-manufacturing companies. Clearly, such numbers give Black and Lynch much greater flexibility in the issues they can explore as cell sizes will remain sufficiently large as the data are cut in different categories.

The other dimension along which the Black and Lynch data are superior is the information on training. The usefulness of this information is seen in the results presented in the 1995 and 1996 papers. According to their results, simply looking at the numbers of employees trained does not lead to an observed positive relationship between training and productivity. However, by looking at *types* of training provided, positive relationships are observed. For example, in manufacturing, the higher the proportion of training that is off-the-job, the higher is the effect on productivity. In non-manufacturing, training in computer skills was seen to have a positive effect on productivity.

Although the data used by Barrett and O'Connell (1998) share with Holzer et al. and with Bartel the difficulty of a limited number of observations, their data also share with Black and Lynch a richness in terms of the dimensions of training included. The most original and useful element of these dimensions was the division of training into general and specific categories, where the distinction follows that of Becker. They find that while specific training does not have a statistically significant effect on productivity, general training does. As such, their results support those of Black and Lynch in that they show that the type of training matters.

I have now considered a range of studies that have sought to estimate the effect of training on productivity. While this is not the same as estimating a rate of return to training, it is a first step because the productivity gain that results from training would generally be agreed to be an important component of the total benefit. Mincer (1991) takes estimates from a range of studies of the type just presented and attempts to translate them into rate of return estimates. To do this it is necessary to introduce a variable that I have not yet considered, namely, the depreciation rate. The studies I have looked at have typically estimated the effect of training on productivity within a short time period. However, it seems reasonable to assume that the benefits of training would last beyond the immediate period. I am not aware of any work that has attempted to empirically establish how fast training depreciates. It may be possible to derive some proxy estimates from the shape of the experience-earnings profile but in general, we do not know what the depreciation rate of training is. Mincer assumes an annual depreciation rate of 4% and produces rate of return estimates that range from 8.7% to 26%. These estimates would be quite sensitive to the depreciation rate assumed so their reliability would have to be questioned.

Before leaving studies of the link between training and productivity, I will draw attention to two additional pieces that have focused on methodological issues in this area. The first piece is by Barron, Berger and Black (1997, Chapter 5). They study the issue of differences between workers and their employers in survey responses to questions about the amount of training received, plus other labour market matters such as hours worked and wage rates. By separately surveying employers and their workers, Barron et al. develop a very direct test of the differences. They find that firms generally report more training than workers and describe the correlation between responses as being 'surprisingly low'. What is perhaps more surprising is that the differences in responses are of a similar order of magnitude for formal and informal training. A reasonable expectation would have been that greater agreement would exist about formal training. The implication of these findings for rate of return estimation is severe. If we are unsure about the reported information on training, even data sets like Black and

Lynch's become suspect in spite of their apparent richness.

A second paper that has addressed the methodological issues in this area is Huselid and Becker (1996). They consider two separate, yet related, problems. When discussing Holzer et al. above, I talked about the need to have information on firms at two points in time for meaningful estimates of the effects of training to be derived. To generate such information and avoid recall difficulties, it is useful to survey firms at two points in time. Huselid and Becker point out that survey response rates from firms are typically quite low and certainly lower than response rates from individuals. While this is a problem in a once-off cross-section, it is considerably more of a problem in a short panel. In the example of a survey the authors use, the response rate from the two surveys leaves usable information on only 10% of the original firms. Clearly such a low response rate raises questions about how representative a sample can be.

The second problem considered by Huselid and Becker again derives from the need to estimate how training leads to changes in productivity. In order to look at changes, it is necessary to difference the data. If the cross-sectional data suffer from measurement error, differencing compounds the associated difficulties. From the work of Barron et al. (1997), we know that measurement error is indeed a problem so the issue raised by Huselid and Becker is an important one.

3.1 Different forms of training

The discussion so far has generally looked at the impact of training, broadly defined, with less emphasis on work that explicitly aims to compare the effects of different types of training. In this section, I will briefly look at some such studies. Much of the discussion is taken from ILO (1998).

One issue that has been addressed is whether apprenticeships provide participants with better subsequent labour market outcomes relative to other forms of skill acquisition. According to Ryan (1998), the evidence for developed countries is that apprenticeship does yield better outcomes in terms of pay and employment relative to public training programmes. However, comparisons between apprenticeships and vocational schooling show more mixed results. Another area of comparison explored is that between general and vocational secondary schooling. Psacharopoulos (1994) discusses how rate-of-return analysis has shown technical and vocational education to be less beneficial than more general, academic education. The ILO (1998), however, is sceptical of the use of the rate of return methodology in establishing priorities between vocational and general secondary education. In particular the ILO argues that the external benefits of vocational training are not adequately factored into the analysis. They also argue that the more important policy issue is the exploitation of complementarities between different levels and types of education.

Yet another comparison in this area has been between different systems of human capital use. Two studies of the engineering industry have attempted to assess the reason for productivity differences between plants in the Netherlands, Britain and the United States. The first study focused on the first two countries (Mason and van Ark 1993) and found that the higher level of productivity in Dutch plants relative to those in Britain was partly related to a higher proportion of the Dutch employees having craft-level skills and technical qualifications. In the second study (Mason and Finegold 1995) the higher level of productivity in the US plant was found to be related to the presence of a greater number of graduate engineers.

These comparisons of different elements of human capital investment and raise the issue of whether it is more useful to asses the value of training generally relative to other possible investments or whether we should focus within training and assess relative values of different approaches. Even the answer to this question depends on the relative costs and benefits. The benefits here are the information that can be generated on rates of return while the costs are the expense of generating those rates. To the extent that work to date has looked at training broadly defined and generally found evidence suggesting a

healthy return to training expenditures, it could be argued that the 'within training' analysis would now be of greater value.

4. Economic growth and education

In this section, I want to consider the research that has been concerned with the impact of human capital investments on the level of national income and the growth rate of income per capita. Much of the work on this issue has been done within the general context of growth theory. Growth theory in turn has been dominated by the move from neo-classical models of growth to endogenous growth models. As such, any discussion relating to this area must incorporate elements of these competing views.

My approach will be as follows. In the appendix, I outline the Solow growth model (1956) which is the starting point for much of developments in this area. This appendix is intended for those with a particular interest in the theory; other readers can proceed directly onto the next section. In the section that follows, I give more recent theoretical work; this may again be of greater interest to some readers relative others but it is useful to consider the mechanisms through which human capital is thought to influence growth. Then I go on to consider the empirical work of recent years that, broadly speaking, estimates how variations in human capital investment across countries are related to variations in output per head and its growth. I will end the section with an assessment of the work.

4.1 Recent theory of economic growth

The Solow model (which is discussed in the appendix) is a highly abstract version of an enormously complex phenomenon. It analyses growth per capita in terms of simple savings and investment functions and population growth. In spite of its simplicity empirical explorations of the US economy showed the model in a good light as it predicted well much of the American growth experience of the twentieth century. However, in more recent years a number of issues have been raised which have prompted people to look beyond the Solow model.

Romer (1994) discusses the sources of these developments and makes the following points. One difficulty with the Solow model concerned its predictions on crosscountry growth experiences. Given its neo-classical underpinning, the model predicted that convergence in income levels across countries would be observed. Simple analyses of cross-country growth experiences do not reveal a pattern of poorer countries growing faster than richer ones.

A second difficulty with the Solow model according to Romer was the manner in which technological change was treated. There is something intellectually unsatisfying about treating technological change as being exogenous, especially as it is the engine of per capita output growth in the Solow model. Romer (1994) notes that technological advancement typically comes about through conscious economic decisions made by individuals and firms. Hence, an exogenous treatment seemed to avoid that fact. In addition, the Solow model assumed a world of perfect competition, one implication of which was that payments to capital and labour would exhaust output. In order for firms to recoup the benefits of research and development, it was necessary that scope exist for prices to be above marginal cost. For Romer, the need to move beyond perfect competition in modelling of this nature was the real motivator for what became known as endogenous growth theory.

Romer's (1986) model represents one of the early attempts at 'endogenising' growth. He included an assumption that broke away from the constant returns to scale assumption that characterised the Solow model. He did this by including in the production function a term that he calls 'knowledge'. Labelling the knowledge that each firm produces through its own research and development as k, the sum of knowledge across firms as K and some fixed factor of production as x, the production function can be written as:

$$Y = f(k, K, x)$$

This says that the output of each firm is partly dependent on the knowledge generated by

other firms. As this knowledge cannot be kept secret or perfectly patented, there are 'spillovers' in knowledge whereby all firms benefit from the research and development of others. By assuming that the production function exhibits increasing returns in K, an internal dynamic is generated that makes growth endogenous to the system. Increases in output lead to more resources being available for research and development; this in turn leads to more knowledge being generated and hence more output. By extension, this model also predicted that convergence across countries might not arise.

Lucas (1988), like Romer (1986), tries to introduce an endogenous engine of growth into a growth model and uses human capital for this purpose. He proposes two variations. First, he takes human capital to be the general skill level that a worker possesses and denotes this h. Each worker can add to his human capital by devoting part of his non-leisure time to human capital accumulation. Assume that each worker devotes a fraction u of his time to production and 1-u to human capital production. If there are N(h) workers with skill level h, the effective workforce in production is

$$uNhdh$$

In addition to the effect of each individual's human capital on production, Lucas proposes an additional effect. He assumes that there is an external effect of human capital (not unlike Romer's external effect of knowledge) whereby the average amount of human capital in the economy also enters as an argument in the production function. As such, Lucas writes the production function as follows:

$$Y = A\, f(K, uhN).h_a$$

where h_a is the average level of human capital in the economy.

For human capital to become the engine of growth in the model, Lucas needs to specify the manner in which human capital is accumulated. He does this by assuming that human capital accumulation is a linear function of the existing level of human capital:

$$\text{changes in } h = h(t)\,\delta[1-u(t)].$$

Lucas tests his model against the data for the US and finds that while his model performs well, it does not perform substantially better than the Solow model. In spite of this, he still maintains that an advance has been made because the model that includes human capital in this manner is at least consistent with cross-country differences in the growth experience.

Lucas' (1988) second approach to incorporating human capital hinges on the idea that human capital is generated during the production process, and not outside of it as his first model suggests. This distinction can be interpreted as that between formal education and learning on-the-job. He assumes there are two consumption goods, c_1 and c_2. The production of good i is summarised as:

$$Ci = h_i\, u_i\, N$$

where h_i is the human capital specialised to the production of good i and u_i is the fraction of the workforce devoted to the production of good i. To operationalise the idea that human capital accumulation is the outcome of the production process, Lucas assumes that the growth in h_i is related to the effort devoted to the production of good i, u_i:

$$\text{changes in } h_i = h_i\, \delta_i\, u_i$$

While this equation for human capital growth may look very similar to the version above, the interpretation is quite different. In the equation above, the value u refers to time away from the production of consumption goods; in this equation, it refers to time spent in the production of consumer goods. Either way, human capital contributes to economic growth and is the engine for continued growth.

Romer (1990) introduces human capital into his growth model in another novel way. He specifies three types of skills:

L, physical skills like eye-hand co-ordination and strength;
E, educatonal skills acquired in primary and secondary school; and

S, scientific talent acquired in post-secondary education.

In addition to the educational variables, Romer also specifies an experience variable Z that denotes total man-hours of time spent on-the-job.

Consumption goods are produced using L, E, Z and intermediate producer durables $X^C = (X^C_1, X^C_1, \ldots)$. Note that scientific education S is not a direct input into the production of consumer goods. Instead, S enters the model through its effect on X^C. The list of X includes as yet undiscovered inputs. Research is devoted to developing new inputs that make the production of consumer goods cheaper. The research process is improved by S and this is the mechanism through which S impacts upon economic growth. One of the values of Romer's (1990) approach is its explicit treatment of different forms of human capital which can be exploited in an empirical framework.

Mankiw, Romer and Weil (1992) also explicitly include human capital in their theoretical model but unlike Lucas and Romer, they base their model in the neo-classical spirit of Solow. The specify their production function to be:

$$Y = K^{\alpha} H^{\beta} (AL)^{1-\alpha-\beta}$$

where H is the stock of human capital. They do not assume increasing returns or the existence of externalities. They go on to test their model and their results will be outlined below. For now, it is sufficient to note that this is a theory emphasising the importance of human capital in explaining economic growth but which does not rely on the type of assumptions which characterise the endogenous growth models.

4.2 The empirics of economic growth

Much of the early empirical work on economic growth was concerned with what became known as growth accounting. By this it was meant that annual growth rates for an economy (typically the United States) were broken down into the sources of that growth, following Solow's model. These sources were increases in the amount of capital and labour and a residual; the residual was thought to capture improvements in capital and labour, or alternatively put, technological improvements and human capital improvements. Griliches (1996) discusses this work and writes about his efforts and those of others to develop measures of human capital that could be used in these growth accounting exercises. One approach was to weight different types of labour (such as educational groups) by their market wage. The basic finding was that educational improvements could explain about a third of the residual that could not be explained by the growth in capital or labour.

With the development of cross-country datasets, the focus on a single economy shifted to international comparisons of the growth experience. Romer (1990) contains an empirical exploration of the growth process across countries and how human capital affects the pattern of growth across countries. The data used by Romer partly come from those assembled by Summers and Heston (1988); the measures of human capital are taken from the annual statistical yearbooks published by Unesco. The main human capital variable used is literacy. One reason for this relates to a general problem when undertaking cross-country analysis, namely, the difficulty of finding variables that are consistently defined and measured across countries and over time. Romer chooses to focus on literacy partly for this reason. His results therefore relate primarily to the connection between basic literacy and the rate of growth in output per head and the rate of investment.

The variables used by Romer are as follows (it is worth listing them as Barro (1991), discussed below, uses a similar set):

C: a constant;

Y60: real per capita income in 1960;

GROWTH: the annual average rate of growth of Y60 over the years 1960 to 1985;

GOV: the share of GDP devoted to government spending on items other than investment goods;

INV: the share of GDP devoted to investment;

LT60: the percentage of the population that is literate in a survey year that is close to 1960;

LT-DIFF: changes in the literacy rate between 1960 and 1980;

NP60: the consumption of newsprint in 1960;

RD60: the number of radios per 1000 inhabitants in 1960.

The sample included all the market economies included in the Summers and Heston data, except for Kuwait and Saudi Arabia; this left 112 countries. Regressions were run in which the dependent variable was GROWTH. The basic results show that the initial level of education (as measured by literacy levels) had a positive partial correlation with growth but subsequent analysis throws a question mark over this result. Romer is concerned about measurement error in both the income and literacy variables and so reestimates the basic equations using instrumental variables.

The reestimations give rise to a number of issues. Once instrumental variables are used to correct for measurement error in the income and literacy variables, neither is found to be significantly related to the rate of output growth. Part of the explanation for this arises because of the correlation between literacy and income. As such, Romer runs separate regressions in which he excludes literacy and then income. While income on its own is found to have a significant effect on growth, no such significant effect is found for literacy.

This finding of no significant effect of human capital is counter-intuitive but further analysis by Romer uncovers the reason for the result. The initial level of literacy and its rate of change are found to be positively correlated with investment. Once investment is excluded from the regressions both the level of literacy and the rate of change are found to have a significant effect on the growth rate. However, as Romer points out it is important to be careful in interpreting the partial correlations. It could be that investment, the growth in output and the growth in literacy are simultaneously determined; the directions of causation are less clear.

Barro (1991) begins with the observation that one implication of the neo-classical growth models, such as Solow's (1956), is that a country's per capita income growth should be inversely related to its initial level of per capita income. Alternatively put, there should be convergence between countries in terms of per capita income. Barro then notes that these hypotheses appear to conflict with the evidence and that there is little evidence of convergence. His empirical work attempts to work out this contradiction. Whereas many studies had previously focused on the variables that Solow emphasised, namely the savings rate and population growth, Barro, like Romer (1990), incorporates human capital into his empirical modelling.

Again like Romer (1990), Barro draws on the data of Summers and Heston (1988) and examines 98 countries for the years 1960 to 1985; his data are supplemented with data from the United Nations, the World Bank plus some other sources. While Romer used literacy as his measure of human capital across countries, Barro uses school enrollment rates. In particular, his human capital variables are the 1960 rates of primary school and secondary school enrollment. By including these variables in cross-country regressions with the growth rate as the dependent variable, Barro can assess what impact their inclusion has on the relationship between initial levels of income and growth.

The human capital variables are found to have a positive and significant relationship with per capita growth. In addition, and this is the point stressed by Barro, once the human capital variables are included, the initial level of income is found to have a negative and significant coefficient. This leads him to note that 'for a given starting value of per capita GDP, a country's subsequent growth rate is positively related to [these] measures of initial human capital'. He goes on to note that 'given the human capital variables, subsequent growth is substantially negatively

830

related to the initial level of per capita GDP'. The implication of this latter statement is that while convergence may occur, it is conditional on there being an initial level of human capital. In this way, the importance of human capital from a macroeconomic perspective is seen.

I noted in the theory section that Mankiw, Romer and Weil (1992) construct a Solow-type model in which they explicitly include human capital. Their core empirical concern is then the following. The standard Solow model, which does not explicitly include human capital, assumes that all output is paid to capital and labour according to their marginal products; this is a consequence of the constant returns assumption. The shares of output that are observed to be paid to capital and labour can then be taken as measures of their marginal products. This in turn allows us to calculate the elasticities of output with respect to capital and labour growth. One empirical difficulty for the Solow model is that regression estimates of the effect of investment on output tended to be greater than that predicted by the model. This result was one of the motivators of the thinking behind endogenous growth theory, discussed above.

Mankiw, Romer and Weil (1992) use the percentage of the working age population that is in secondary school as their measure of human capital. They find that by adding human capital to the type of cross-country regressions which are run by Barro and Romer, the estimated elasticity of output with respect to investment becomes more in line with the predictions of the Solow model. This is because investment leads to higher income levels that in turn leads to higher levels of human capital.

They also find that human capital, as they measure it, is positively and significantly related to the level of national income for the sample of countries that they examine. Their confidence in their augmented-Solow model is reinforced by the finding that 80% of the variation in income levels across 98 countries can be explained by three variables: investment, human capital and the sum of population growth, technological change and depreciation.

Benhabib and Speigel (1994) have made a particularly useful contribution which seeks to discover the mechanism through which human capital affects growth and income levels. In the theoretical section above, human capital was modelled as affecting output in two broad ways. First, in a model like Mankiw, Romer and Weil (1992) human capital affects output directly by being another input in the production function. But in a model like Romer (1990), we see human capital entering the picture in a second manner. Here human capital affects output indirectly by increasing total factor productivity. In Romer's case, the mechanism was that greater scientific skills increase the rate at which new and improved intermediate outputs were developed. The introduction of the new intermediate products into the production function acts as an impetus to growth. Benhabib and Speigel (1994) refer to Romer's mechanism as a possible source of human capital's affect on output but they also mention the mechanism of Nelson and Phelps (1966). They suggest that the importance of human capital arises in the adapting of new technologies from abroad. Some countries will be technological leaders; others will need to acquire and use technologies being developed by the technological leader. Human capital facilitates this.

Benhabib and Speigels' (1994) empirical work tries to establish which of the two broad patterns of influence of human capital is true. They find no support for the Mankiw, Romer and Weil (1992) view. This is surprising given the positive results that Mankiw et al. produced. Benhabib and Speigel address the discrepancy; one explanation lies in the different measures of human capital used. Support is found for the Romer/Nelson and Phelps view. But in addition to the roles suggested by these authors, Benhabib and Speigel also discuss how their results point to the importance of human capital for countries trying to attract physical capital, or foreign direct investment.

In giving a general review of the work in this area, Griliches (1996) describes as robust the finding that the initial average level of schooling makes a positive contribution to growth. However, he also makes reference to 'the re-

peated finding' that 'changes in the estimated level of schooling or human capital do not contribute to growth, at least as measured over the 1965-85 period'. He offers one possible explanation of this apparent contradiction; in many countries increased numbers of educated people were absorbed in the public sector. To the degree that public sector employees make smaller contributions to economic growth, the increase in human capital will not have translated into economic growth.

Whether this argument by Griliches is true or not, it does draw attention to the possibility of a break in the link between human capital accumulation and growth.

5. Discussion

I have now reviewed the research that has been done on the impact of training on the wages of individuals, the impact of training on productivity and the impact of education on growth rates and income levels across countries. I now want to discuss what has emerged from two perspectives. First, I will discuss the implications for research; I will then go on to discuss the implications for policy.

5.1 Implications for research

In terms of calculating rates of return to education and training, the cross-country work provides the least scope for producing anything that might resemble a reliable rate of return.

The work that has been done across countries appears to show that an initial level of human capital is a necessary condition for development. However, as discussed by Benhabib and Speigels (1994), the precise mechanism through which education affects growth is unclear. Romer's (1990) finding of a positive correlation between investment in physical capital and an initial level of human capital suggests that human capital is a necessary condition for development. However, the evidence is much weaker when we ask if human capital provides a sufficient condition for development. It could be that without physical capital accumulation, additions to the human capital stock do not add to growth.

Apart from the difficulties of demonstrating a link between human capital and growth, any effort at estimating a 'macro' return to education or training would have great difficulty in accounting for other benefits of training. For example, higher levels of human capital are often associated with reduced levels of crime. However, to capture this effect across countries with any degree of reliability would be enormously difficult. For this reason, both empirical and theoretical work at this level can best be directed towards uncovering the mechanism through which education and training influence growth.

The work at the level of individuals and firms provides much more scope for estimating reliable rates of return but as was made clear in the discussion above, there are many difficulties when it comes to such returns. In the case of individuals, these difficulties are not entirely insurmountable so let me propose an approach that would at least go some way to improving our estimates in this area. As I noted when discussing the benefits to individuals of training, in order to make a valid rate of return calculation it is necessary to have a full valuation of all costs and benefits. To the extent that individuals pay out of pocket expenses, this element of cost is transparent. If the individual partly pays for the training through reduced wages, it is clearly more difficult to estimate costs but it is not impossible. Through the estimation of wage equations, it is possible to estimate what the wage of an individual would be given a range of characteristics. By comparing a hypothetical individual with a similar person who is being trained, it is possible to derive an estimate of the wage disadvantage suffered while training.

But can we get a full valuation of the benefits to the individual of training? The wage gain has clearly been studied at length so we certainly have information on that point. The reduced incidence of unemployment could be estimated using a panel of individuals and associating differences in unemployment incidence and duration across individuals with

differences in training acquired. By applying the estimates over the life-cycle it would be possible to estimate how life-time earnings would be affected by training, through the reduced unemployment effect.

Valuing the intangible effects of training would be the most difficult element of this exercise but again it is possible to get some estimate. Take the case of increased job satisfaction. As no market exists in which people can buy job satisfaction, we do not know what people are willing to pay for increased job satisfaction or how they value it. But this issue has arisen in other areas of economics, in particular environmental economics, and innovative approaches have been developed to put values on "goods" that are not valued in the marketplace.

One such approach is called 'contingent valuation'. Any standard textbook on environmental economics will contain a discussion of this technique; one such example is Pearce and Turner (1991). To illustrate how this operates I will use as an example an area of scenic beauty. If a proposal exists to construct a motorway that will destroy the scenic attributes of the area the issue arises of what value people place on the scenic area. Without such a valuation it is not possible to determine whether the value of the motorway is sufficient to warrant the destruction of the area. Contingent valuation generates an estimate of the value by surveying people and asking how much they would be prepared to pay to keep the scenic area. Alternatively they can be asked how much they would be willing to accept to forego the scenic area. Either way, it is possible to generate an estimate of the value using carefully designed survey techniques to overcome some obvious difficulties with the method.

This approach to estimating value for 'goods' that are not traded in the marketplace could in principle be extended to provide an estimate of the value of the intangible effects of training. Referring again to the benefit of increased job satisfaction, it would be possible to get an estimate of the value of this benefit by surveying workers and asking them to place a value on the increased job satisfaction they derived from any training they received. Such an approach would be laden with difficulties but as the methodology has been developed and refined in environmental economics, the lessons learned could be adopted. Possibly the biggest difficulty would arise from the employees' incentive to overstate the value of the job satisfaction if they valued the training for other reasons but thought that overstating the benefits would lead to increased training provision. One way of avoiding this would be to survey employees about training with previous employers; responses to these questions would be less likely to influence existing employers.

By carefully calculating costs and benefits in the manner just described, it should be possible to generate rate of return estimates for individuals. As the exercise for firms is more straightforward, rate of return estimates should also be possible for that group. If we accept that profitability captures the primary concern of the firm, rates of return could be calculated using the type of survey-based studies discussed above but focusing on profitability rather than productivity. Also, more information on the costs of training would be required. Such work could be supplemented with efforts to uncover the precise link between training and any increase in profitability, such as reduced turnover.

In spite of the possibilities, difficulties remain and so the issue arises of whether we should pursue the estimation of more reliable rates of return to employer-provided training or whether our research efforts might be better directed. To look at the issue from an entirely different perspective, let us stand back from the details and ask why we want to know the rate of return to training? In essence, we want to know because we believe the level of investment might be higher or lower than that which is optimal but without a rate of return estimate we cannot know. But rather than pursuing the issue by searching for an improved rate of return estimate, can we ask why there might be under or overinvestment? Alternatively put, can we ask why the free market might give rise to suboptimal levels of investment in training?

Let me develop this with a concrete example. Ever since Becker's work on general and specific training, we have been aware that under conditions of perfect competition in the labour market employers will not pay for training that can be used by the employee elsewhere, i.e. general training. This is because employees can take the general training and use it elsewhere, thereby denying the first employer a chance to recoup the investment. However, employees might pay for the training through lower wages during the training period. If there is some constraint on employees' ability to take lower wages (such as a minimum wage) then they may not receive general training and so the level of training provision will be below the optimum. In this situation, the rate of return to training will be high relative to other investments. Hence, we could get an insight in to the underprovision of training by estimating the rate of return or by identifying a reason for its underprovision.

This line of thinking will be familiar to labour economists. However, more recent work that has been written about by Acemoglu and Pischke (1999a and b) has begun to cast some doubt on the rigid implications of the Becker theory. They provide examples of where employers do provide and pay for general training and present scenarios which show rational economic behaviour on the part of the firms. For example, Bishop and Kang (1996) discuss a situation of asymmetric information. When an employee is not able to signal perfectly the generality of the training that they have received with one employer to another, skills that are technically general become de facto specific. In this situation, the employer has an incentive to contribute to the provision of general training. Acemoglu and Pischke (1999b) show how wage compression can produce the same effect of turning general skills into de facto specific skills. If workers who receive training cannot go elsewhere and earn a wage equal to their marginal product because wages have been compressed, for example by unions, then the mobility argument which is crucial to Becker's result breaks down.

The Acemoglu and Pischke line would suggest that concerns about underinvestment in human capital may be unfounded. If this is so, then rate of return estimates may not be of great importance. However, the endogenous growth theory developments discussed above have introduced a new set of concerns over market failure in human capital. If the externalities of the sort suggested by Romer and Lucas are large and prevalent, then underinvestment in human capital from the aggregate perspective will arise. I have noted already that estimating returns at this macrolevel will be unproductive. For this reason, it appears that efforts to deepen our understanding of the link between education, training and growth and the possible existence of externalities and hence market failure may represent the most fruitful research avenue.

5.2 Implications for policy

The central question I want to address in this final section is whether governments should contribute to the funding of employer-provided training in the light of the research results discussed above. I will not consider the issue of education as the case for government funding in that area is well understood and accepted. As always, the principles upon which this question should be answered can be taken from elementary public economics. We know that government intervention should occur where there is market failure such as the existence of externalities or public goods, or where the government wishes to alter the distribution of resources. Hence, we must ask what market failure arises in the case of employer-provided training.

There are two standard arguments given in respect of employer-provided training. A market failure can arise in the case of employer provision of training because an employee may quit, thereby preventing the employer from gaining a return on the training. A second market failure can arise in that either firms or individuals with liquidity constraints may not be able to borrow money to finance training.

In the light of the studies presented above, I would argue that there is evidence to suggest that market failures may not be as prevalent

as is sometimes thought. The papers by Acemoglu and Pischke address the issue of market failure quite directly and cast doubt on its prevalence. Many of the studies that looked at the effect of training on company productivity are also indicative. As they generally found a positive effect of training on productivity, this would suggest that trained employees are not necessarily leaving but rather stay and allow the training they received to translate into productivity increases. We have also seen evidence that training increases profitability so it would generally appear that companies have an incentive to undertake training.

Even if companies have an incentive to undertake training, they may not undertake if they, or the employees, face liquidity constraints. In the case of large firms, it seems unlikely that this is a real constraint. As such, if governments were to fund training in these large companies it is likely that all that is being achieved is the subsidisation of an activity that would have occurred anyway. As the training would be of value to the firm and they are in a position to finance it, the training would probably be undertaken in the absence of any government funding. In this way the government's money is not only wasted – as the money is transferred to a company that is already profitable, it is being transferred in a way that is counter to standard distributional considerations.

For firms which face genuine liquidity constraints, and these will typically be smaller sized enterprises, there remains an argument in favour of government funding. In this case, government funding will lead to training being provided that would not otherwise have been. What is more, by not offering finance to larger firms who are less likely to face liquidity constraints, extra resources are available for smaller firms, or for other programmes.

Appendix

The Solow model

Any discussion of growth theory must begin with an outline of the Solow growth model (Solow 1956). This model has been enormously influential in terms of generating empirical work on growth and additional theoretical work which has departed from the Solow view.

The model begins with the aggregate production function, which shows how output (Y) is a function of the amount of capital (K) and labour (L) employed, and the state of technology (A):

$$Y = A\,f(K,L)$$

Output increases with additional amounts of K and L, but at a decreasing rate if more L or K is added to a fixed amount of the other factor (i.e. diminishing marginal returns). If both K and L are increased by the same proportion, output also increases by that proportion (i.e. constant returns to scale). Should the amount of K and L remain the same but technology improves (i.e. an increase in A) then the amount of output produced also increases.

The focus of the model is on how output per capita grows over time so a restatement of the production function allows for a focus on this point. Given the assumption of constant returns to scale, it is possible to re-write the production function in per capita terms:

$$Y/L = A\,f(K/L, 1).$$

Denoting per capita values by lower case letters, we can write this as:

$$Y = A\,f(k),$$

i.e. output per head is a function of capital per head and the state of technology.

Moving on to issues of growth, Solow noted that changes in capital per head would be the result of investment per head and population growth (assuming that all the population are in the labour force, which is a useful simplifying assumption). Investment per capita is assumed to be equal to savings per capita, which in turn is equal to output per capita multipled by the marginal propensity to save, s. In terms of our notation:

$$\text{Investment per capita} = sf(k).$$

Population growth is assumed to be at an exogenous rate of n. If capital per head is to be kept constant, investment per head would have to be at a rate of nk.

Combining these assumptions, we can say the following:

$$\text{changes in capital per head } (k) = sf(k) - nk.$$

Given the assumptions employed by Solow, the model generated an additional crucial implication. In the 'steady state', growth in output per capital will be zero; investment per head will be sufficient to maintain capital per head but this in turn will be enough only to maintain output per head. This result is derived from the assumption of diminishing marginal productivity. To understand why, assume initially that

$$sf(k) > nk.$$

Here, investment per capita is greater than the required replacement rate. As such, capital per head will rise and so $sf(k)$ and nk will rise also. But by the assumption of diminishing returns $sf(k)$ will eventually rise more slowly than nk and so will eventually will equal nk. A similar logic applies if $sf(k) < nk$. Now capital per head will be falling, until $sf(k) = nk$.

Given that output growth per person will be zero in the steady state, the model predicts that output per head will only increase if A increases, i.e. there is a technological improvement. This in turn took the focus away from human capital as being the engine of growth. Exercises that looked at the sources of economic growth typically measured increases in L and K and labelled the additional growth that could not be accounted for by changes in K and L as the Solow residual. While it was conceded that the residual may be picking up improvements in human capital, the focus of the exercise follows the explicit factors which Solow had modelled and hence relegated all besides capital and labour into the residual.

836

Bibliography

Abbott M., Beach C., 1994. Wage changes and job changes of Canadian women: Evidence from the 1986-87 labour market activity survey. *Journal of Human Resources*, **29** (2), pp. 429-460.

Abbott M., Beach C., Kaliski S., 1995. Wage changes and job changes of Canadian men: Empirical evidence. *In:* Christofides L., ed. *Aspects of labour market behaviour: Essays in honour of John Vanderkamp.* Toronto: University of Toronto Press.

Acemoglu D., Pischke J-S., 1999a. Beyond Becker: Training in imperfect labour markets. *Economic Journal*, February.

Acemoglu D., Pischke J-S., 1999b. The structure of wages and investment in general training. *Journal of Political Economy*, **107** (3), pp. 539-572.

Barron J.M., Berger M.C., Black D.A., 1997. *On-the-job training.* Kalamazoo, Michigan: W.E. Upjohn Institute.

Barrett A., O'Connell P.J., 1998. *Does training generally work? The returns to in-company training.* Centre for Economic Policy Research Discussion Paper No. 1879, London.

Barro R.J., 1991. Economic growth in a cross section of countries. *Quarterly Journal of Economics*, **106** (3).

Bartel A., 1994. Productivity gains from the implementation of employee training programs. *Industrial Relations*, **33** (4), pp. 411-425.

Benhabib J., Speigel M.M., 1994. The role of human capital in economic development: Evidence from aggregate cross-country data. *Journal of Monetary Economics*, **34**, pp. 143-173.

Björklund A., Holmlund B., 1989. Job mobility and subsequent wages in Sweden. *In*: van Dijk J., Herzog H., Schlottmann A., eds. *Migration and labour market adjustment.* Boston: Kluwer.

Black S., Lynch L., 1997. *How to compete: The impact of workplace practices and information technology on productivity.* National Bureau of Economic Research Working Paper No. 6120, Cambridge, MA.

Black S., Lynch L., 1996. Human capital investments and productivity. *American Economic Review*, **86** (2), pp. 263-267.

Bishop J.H., 1994. The impact of previous training on productivity and wages. *In*: Lynch L., ed. *Training and the private sector: International comparisons.* Chicago: University of Chicago Press.

Bishop J.H., Kang S., 1996. *Do some employers share the costs and benefits of general training.* Centre for Advanced Human Resource Studies, Cornell University, Working Paper No. 96-19.

Booth A.L., 1991. Job-related formal training: Who receives it and what is it worth? *Oxford Bulletin of Economics and Statistics* **53** (3), pp. 281-294.

Filer, Randall, Hamermesh D., Rees A., 1996. *The economics of work and pay.* New York: HarperCollins.

Griliches Z., 1996. *Education, human capital and growth: A personal perspective.* National Bureau of Economic Research Working Paper No. 5426.

Groot, Wim, Hartog J., Oosterbeek H., 1994. Returns to within company schooling of employees: The case of the Netherlands. *In*: Lynch L., ed. *Training and the private sector: International comparisons.* Chicago: University of Chicago Press.

Holzer H., Block R., Cheatham M., Knott J., 1993. Are training subsidies for firms effective? The Michigan experience. *Industrial and Labour Relations Review* **46** (4), pp. 625-636.

Huselid M.A., Becker B.E., 1996. Methodological issues in cross-sectional and panel estimates of the human resource- firm performance link. *Industrial Relations* **35** (3).

International Labour Office, 1998. *World employment report 1998-99: Employability in the global economy; how training matters.* Geneva: ILO.

Lucas, Robert E. Jr., 1988. On the mechanics of economic development. *Journal of Monetary Economics*, **22**, pp. 3-42.

Lynch L., 1992. Private-sector training and the earnings of young workers. *American Economic Review*, **82** (1), pp. 299-312.

Lynch L., Black S., 1995. *Beyond the incidence of training: Evidence from a national employers survey*. National Bureau of Economic Research Working Paper No. 5231, Cambridge, MA.

Mankiw N.G., Romer D., Weil D.N., 1992. A contribution to the empirics of economic growth. *Quarterly Journal of Economics* **106**, pp. 407-437.

Mason G., van Ark B., 1993. *Productivity, machinery and skills in engineering: An Anglo-Dutch comparison*. National Institute of Economic and Social Research Discussion Paper No. 36.

Mason G., Finegold D., 1995. *Productivity, machinery and skills in the United States and Western Europe: Precision engineering*. National Institute of Economic and Social Research Discussion Paper No. 89.

Mincer J., 1991. Job training: Costs, returns and wage profiles. *In*: Stern D., Ritzen J.M.M., eds. *Market failure in training? New economic analysis and evidence on training of adult employees*. Berlin: Springer-Verlag.

Nelson, Richard and Edmund Phelps, 1966. Investment in humans, technological diffusion and economic growth. *American Economic Review* **61**, pp. 69-75.

Pearce D., Turner R.K., 1991. *Economics of natural resources and the environment*. London: Harvester Wheatsheaf.

Psacharopoulos G., 1994. Returns to investment in education: A global update. *World Development* **22** (9).

Romer P.M., 1986. Increasing returns and long-run growth. *Journal of Political Economy*, **94** (5), pp. 1002-1037.

Romer P.M., 1990. Human capital and growth: Theory and evidence. *Carnegie-Rochester Conference Series on Public Policy* **32** pp. 251-286.

Romer P.M., 1994. The origins of endogenous growth. *Journal of Economic Perspectives*, **8** (1), pp. 3-22.

Ryan P., 1998. Is apprenticeship better? A review of the economic evidence. *Journal of Vocational Education and Training*, **50** (1).

Solow R., 1956. A contribution to the theory of economic growth. *Quarterly Journal of Economics* **70**.

Summers R., Heston A., 1988. A new set of international comparisons of real product and price levels: Estimates for 130 countries. *Review of Income and Ialth* **24**, pp. 1-25.

838

Unemployment and skills from a dynamic perspective

Joost Bollens

Abstract

It has been suggested that during the last decades the relative labour market position of the low-skilled has declined markedly, due to a variety of factors. Some authors attribute a substantial part of the explanation of recent European unemployment history to this relative demand shift against the low-skilled. A general increase in skill mismatch is, in their view, one of the main causes of the peculiar persistence that has characterised European unemployment in the past 20 years. This view, however, has not gone unchallenged. Others have argued that the observed persistence is caused by other factors, the incidence of long-term unemployment and everything this brings about, being one of the most important. In this contribution, the two rival views, their microeconomic underpinning and the available empirical evidence as well as the corresponding policy implications are compared.

839

Table of contents

1. Introduction 407

2. Basic facts 407
2.1 Unemployment 407
2.2 Unemployment duration and educational attainment 408
2.3 Summary: some stylised facts 408

3. Explaining the facts 411
3.1 Equilibrium unemployment, persistence, hysteresis and state dependence 411
3.1.1 Equilibrium unemployment and hysteresis 411
3.1.2 The duration of unemployment 414
3.1.2.1 Exit rates 414
3.1.2.2 State dependence 415
3.1.3 Relation with observed facts and policy conclusions 416
3.2 Structural unemployment and skill mismatch 416
3.2.1 A shift in the demand for unskilled workers 416
3.2.2 Structural changes 417
3.2.3 Mismatch 425
3.2.4 Definitions and measurement problems 426
3.2.5 Relation with observed facts and policy conclusions 430
3.3 Job competition 431

4. Corroborating evidence 431
4.1 State dependence versus heterogeneity 431
4.1.1 Introduction 431
4.1.2 Survey of some empirical results 433
4.2 The impact of unemployment on psychological wellbeing 434
4.3 Loss and obsolescence of skills 435
4.4 Employer behaviour 436
4.5 Mismatch 437
4.6 Conclusion 438

Summary 439

Bibliography 445

840

1. Introduction

There is undeniably a relationship between skills and unemployment. Compared to better educated workers, the unemployment rates for workers with low educational attainment, are, almost without exception, consistently higher throughout the EU. As such, this is not a new phenomenon. However, it has been suggested that during the last decades the relative labour market position of the low-skilled has declined markedly, due to a variety of factors. Some authors attribute a substantial part of the explanation of recent European unemployment history to this relative demand shift against the low-skilled. A general increase in skill mismatch is, in their view, one of the main causes of the peculiar persistence that has characterised European unemployment in the last twenty years.

This view, however, has not gone unchallenged. Others have argued that the observed persistence is caused by other factors, the incidence of long-term unemployment and everything what this brings about, being one of the most important.

From a policy point of view, it is important to know which view is most in line with reality. Depending on the chosen theory, policy prescriptions differ. More particularly, there are some implications for organisation of a VET policy to alleviate unemployment problems.

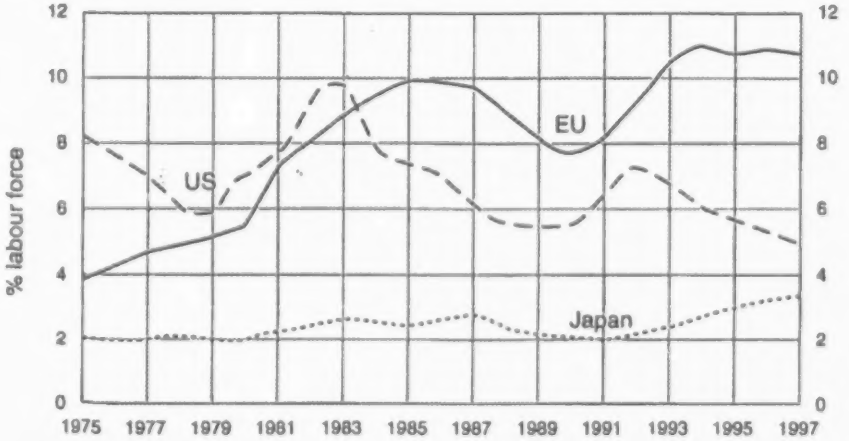
In this contribution, a comparison is made of the two rival views. Although both theories originally stem from a macroeconomic perspective, i.e. a highly stylised and aggregated world, and essentially deal with macro phenomena, most attention will be devoted to their microeconomic underpinning and the available empirical evidence at this level.

2. Basic facts

2.1 Unemployment

A good overview of the recent unemployment history of European countries can be obtained from looking at Figure 1. Two particular evolutions attract attention. A first remarkable observation is that, while US unemployment rates were invariably above European rates during the first part of the observed time span (and for that matter, also during the 1960s and the beginning of the 1970s), from 1983 onwards US unemployment rates are consistently below European. If a straight trend line was drawn through US and EU unemployment evolution, the US line would decrease, starting at 10% in 1975 and arriving at 5% to 6% in 1997. The European trend line, on the contrary, would definitely increase.

Figure 1: Unemployment rates in the EU, US and Japan, 1975-97



Source: European Commission 1999, p. 27.

Table 1: Long-term unemployment (in %)

	1985	1990	1995	1996	1997
EUR15	53.5	51.0	49.1	48.2	49.0
Belgium	69.2	68.2	62.4	61.2	60.5
Denmark	38.6	32.5	28.1	26.6	27.2
West Germany	47.9	46.0			
Germany			48.7	47.8	50.1
Greece	46.2	51.8	51.2	56.7	55.7
Spain	58.5	54.7	54.6	52.9	51.8
France	46.8	44.8	40.2	38.3	39.6
Ireland	64.0	66.7	61.4	59.6	56.6
Italy	65.8	70.8	63.6	65.6	66.3
Netherlands	58.8	47.1	46.6	49.0	49.2
Austria			27.5	25.7	28.5
Portugal	56.1	47.5	50.9	53.0	55.4
Finland			37.0	35.9	29.6
Sweden	11.7	7.0	20.2	19.1	34.2
UK	48.1	35.5	43.6	39.8	38.6

Source: European Commission 1999.

Another striking observation relates to the cyclical behaviour of both series. The US series displays a nice cyclical pattern, with alternating valleys and peaks. In the European series, on the other hand, in the observed time span there was actually only one substantial decline. Still, there seems to be some relationship between the behaviour of both series. Whenever US unemployment starts to rise, European unemployment will follow suit, suggesting a common underlying cause. However, once peaked, US unemployment starts to decrease quite instantaneously, while European unemployment seems to need much more time.

2.2 Unemployment duration and educational attainment

Someone who is in unemployment for at least one year, is called long-term unemployed. As can be seen from Table 1, long-term unemployment is quite significant in most European countries, contrary to the US, where long-term unemployment as a percentage of total unemployment is almost negligible (6% in 1990 for North America).

Another important feature of unemployment relates to the fact that unemployment rates differ between educational attainment groups, typically the lower skilled experiencing a much higher probability of being unemployed than the higher skilled, although there are a few exceptional countries with a reverse relationship. Tables 4 and 6 to 8 document the relation between educational attainment and unemployment rates. While this inverse relationship is not particularly European, nor limited to the past 30 years, there are some indications that the position of the lower skilled has markedly deteriorated in recent history.

A last remarkable fact regards the relation between skills and unemployment duration. As Table 2 indicates, long-term unemployment is disproportionately hitting lower-skilled workers.

2.3 Summary: some stylised facts

Under the proviso that not all countries in the EU have experienced an identical development, still some stylised facts can nevertheless be drawn from the preceding figures:

- over time, unemployment rates have grown, sometimes dramatically;

Table 2: Long-term unemployment, 1997, age groups 25 to 64

	Composition of LTU			Composition of unemployment		
	H	M	L	H	M	L
Austria	0.03 (2)	0.58	0.38	0.06 (1)	0.61	0.33
Belgium	0.11	0.31	0.58	0.14	0.33	0.53
Germany	0.14	0.58	0.28	0.15	0.60	0.25
Denmark	0.19	0.52	0.30	0.20	0.51	0.29
Spain	0.19	0.18	0.64	0.18	0.16	0.65
Finland	0.07	0.48	0.45	0.11	0.56	0.33
France	0.09	0.37	0.54	0.13	0.41	0.47
Greece	0.15	0.44	0.41	0.16	0.41	0.44
Ireland	0.07	0.16	0.77	0.11	0.21	0.68
Italy	0.09	0.34	0.57	0.09	0.32	0.59
Netherlands	0.19	0.40	0.42	0.19	0.38	0.42
Portugal	0.05	0.14	0.81	0.05	0.14	0.81
Sweden	0.13	0.49	0.38	0.13	0.55	0.32
UK	0.09	0.30	0.61	0.13	0.33	0.54

	LTU rates			Unemployment rates		
	H	M	L	H	M	L
Austria	0.5 (4)	1.3	2.7	2.7 (3)	4.2	7.3
Belgium	1.8	4.3	9.2	3.4	7.0	12.7
Germany	2.7	5.1	9.7	5.7	9.8	16.3
Denmark	1.1	1.6	2.8	3.4	4.6	7.9
Spain	7.6	10.6	10.5	13.3	17.5	19.1
Finland	1.5	4.4	8.6	5.5	13.1	16.3
France	2.1	3.9	7.7	6.6	9.7	15.0
Greece	3.0	5.6	3.4	5.5	9.0	6.3
Ireland	1.4	3.1	9.9	3.5	6.5	14.2
Italy	4.6	5.7	6.7	6.6	8.0	10.3
Netherlands	1.7	2.2	3.7	3.3	4.1	7.0
Portugal	1.3	4.0	3.8	2.0	6.5	6.1
Sweden	1.7	3.6	6.0	4.2	10.1	12.6
UK	1.0	2.4	3.9	3.0	5.9	7.7

Source: Eurostat, labour force survey and own calculations.

Legend: Educational attainment: H = Third level education; M = Upper secondary Level; L = Less than upper secondary level

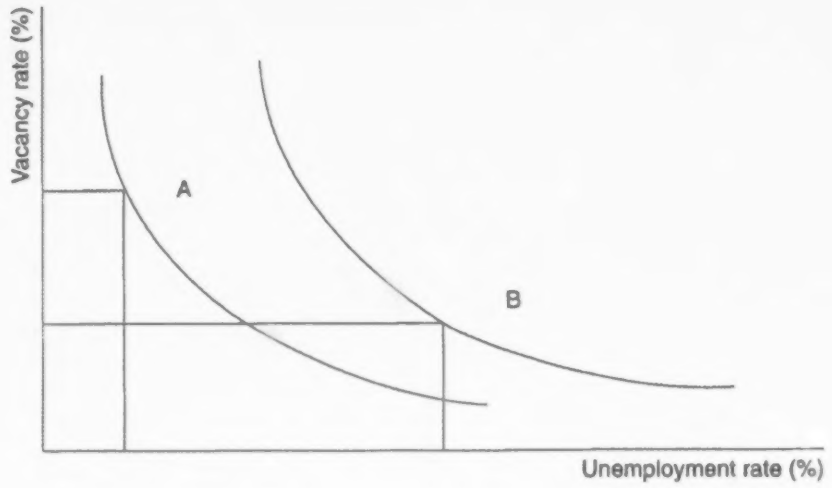
(1) If U is the number of unemployed, and U^H is the number of unemployed with third level education, etc., then 0.06 is equal to U^H/U, i.e. the share of group H in unemployment.

(2) Analogously, if U^{LTU} is the number of long-term unemployed (12 months or more), and U^{H_LTU} is the number of long-term unemployed with third level education, then 0.03 is equal to U^{H_LTU}/U^{LTU}, i.e. the share of group H in long-term unemployment.

(3) If W^H is the number of employed with third level education, then $LF^H = (W^H + U^H)$ is the number of persons with third level education in the labour force, and then 2.7 is equal to $(U^H/LF^H)X100$, i.e. the unemployment rate for group H.

(4) Here the same denominator is used to scale the number of long-term unemployed from group H, etc., i.e. 0.5 is equal to $(U^{H\_LTU}/LF^H)X100$.

Figure 2: Beveridge curve: postulated evolution



- unemployment appears to have a persistent nature, i.e. once the unemployment rate has gone up, e.g. in a period of a cyclical downturn, it has a tendency to remain on this higher level, i.e. it does not return to its initial equilibrium level, even when the business cycle becomes more favourable;

- typically, the unemployment rates are higher for lower skilled than for higher skilled workers, even though the share of the lower skilled in the labour force is decreasing over time;

- the incidence of long-term unemployment (more than one year) is on a historically unprecedented high level. Moreover, it is typically the lower skilled workers who are worst hit by long-term unemployment;

- here it is noteworthy that over time, inflow rates into unemployment in EC countries changed little. What did change over time are the outflow rates, which dropped substantially. In other words, increase in unemployment rates can not be attributed to an increased probability of losing a job. It is the decreased probability of finding one, once unemployed, that is the driving force for EU unemployment growth (Bean 1994; Layard et al. 1991). This evolution is particular for EU countries. In North America, both inflow and outflow rates are high, and consequently, the duration of a typical unemployment spell is low, while in Nordic countries and Japan, at least until the end of the 1980s, inflow rates were low, and outflow rates were high, which also gave rise to a low duration (ibid.);

- high unemployment rates sometimes go hand in hand with high vacancy rates.

This latter relationship can be illustrated by the so-called Beveridge curve (OECD 1993; Calmfors 1994; Van Der Linden 1997). The Beveridge curve depicts the relationship between the number of job seekers (unemployment rate) with the number of vacant jobs (vacancy rate). This relationship is assumed to be inverse, i.e. an increase in the number of vacancies will *ceteris paribus* reduce the number of unemployed, and vice versa. This curve can be seen as a measure for the effectiveness of the matching process between vacancies and unemployed (Calmfors 1994). The observed evolutions (higher unemployment rates, persistence, simultaneously high unem-

ployment and high vacancy rates) imply that over time the Beveridge curve has shifted outwards, as depicted in Figure 2. A point like A is typical for the beginning of the 1970s, whereas a point like B corresponds to the actual situation, *i.e. the unemployment rate compatible with a given vacancy rate is much higher than it used to be.*

Apparently, the matching process has become less efficient over time. How can this be explained? In the next section, we introduce two competing theoretical frameworks that both fit the above-mentioned observations. One is an approach of equilibrium unemployment, enriched with a hysteresis component. The other emphasises the importance of skill mismatch. The remainder of this survey will be devoted to an elaboration of the different claims put forward by these theories to establish which theory is most in line with reality. This is important, because, as will be duly shown, policy prescriptions differ, depending on the chosen theory.

3. Explaining the facts

3.1 Equilibrium unemployment, persistence, hysteresis and state dependence

3.1.1 Equilibrium unemployment and hysteresis

To grasp the main gist of the first approach we labelled 'equilibrium unemployment, enriched with hysteresis', we start with a short intellectual history of the main ideas.

During the 1960s, economic policy-making was to a large extent founded on the so-called Phillips curve, which posits an inverse relationship between inflation and unemployment. According to the then prevailing consensus, one could achieve and maintain a permanently low level of unemployment merely by tolerating a permanently high level of inflation (Mankiw 1990). However, in 1968 Milton Friedman and Edmund Phelps, independently, concluded that the trade-off between inflation and unemployment as described by the Phillips curve, could not be generally true.

Subsequent developments proved Friedman and Phelps correct. With the 1970s came an era of stagflation, where rising inflation rates went together with high unemployment. Both authors had, in their refutation of the Phillips curve, put forward the notion 'natural rate of unemployment'. This natural rate is a kind of long-term equilibrium rate of unemployment. Actual unemployment rates can differ, but in the end they will drift towards this underlying equilibrium value. The natural rate depends on the 'actual structural characteristics of the labour and commodity markets' (Friedman 1968, as quoted by Cross 1995). The natural rate does not depend on nominal variables, such as the level of aggregate demand. A demand shock, e.g. a traditional stimulation of demand by fiscal policy, will affect the actual unemployment rates, but not the equilibrium rate. Thus unemployment will drift towards its equilibrium value.

As already said, macroeconomic developments in the 1970s coincided with the predictions of the natural rate hypothesis. A series of supply shocks (e.g. rise in commodity prices, such as oil) led to a sharp increase in the actual unemployment and inflation rates in the OECD. With the 1980s, however, came some rather puzzling new developments, especially in Europe. As a reaction to the high levels of inflation, at the beginning of the 1980s disinflationary policies were pursued, with a tight monetary policy, and a major and prolonged fiscal contraction (Blanchard and Summers 1986a, 1986b). This large, adverse demand shock resulted in a further rise of (European) unemployment.

After inflation had been stabilised at a lower level by 1985, and after a beneficial oil shock in 1985-86, the original factors that had propelled unemployment growth, had largely disappeared. One expected now a substantial decrease of unemployment. This, however, did not occur (Cross 1995; Bean 1994; Layard et al. 1991;). Or, put differently, as the equilibrium unemployment rate is the rate at which inflation is constant, the then prevailing actual unemployment rate appeared to be the equilibrium rate, suggesting that not only the actual, but also the equilibrium unemployment rate had risen sharply.

845

'While this could as a matter of logic be due to shocks increasing both the equilibrium and the actual rates, empirical attempts to identify such shocks have failed. Lower productivity growth and higher oil prices may help explain the 1970s, but there are very few identifiable adverse shocks which can explain a doubling of *equilibrium* unemployment in the 1980s' (Blanchard and Summers 1986a, page 1, our italics).

At this point, the issue of hysteresis was brought forward. The persistence of European unemployment rates, which could not be reconciled with prevailing theory, switched attention away 'from the original source of increase in unemployment toward the question of how the effects of shocks are propagated over time, leading to an equilibrium rate of unemployment that depends not only on the current values of the relevant forcing variables, but also on the history of unemployment' (Bean, 1994, p. 603).

By introducing hysteresis, one incorporates the empirical observation of the 1980s that, once unemployment has risen, it has a tendency to remain at this higher level, so that today's equilibrium unemployment level depends partly on past unemployment. Several possible explanations for the emergence of persistent unemployment have been given: insider-outsider models (and hiring and firing costs) (e.g. Blanchard and Summers 1986a, 1986b; Lindbeck and Snower 1986, 1987), outsider characteristics (e.g. Budd et al. 1987; Franz 1987; Price 1988; Tötsch 1988; Layard et al. 1991), and capital shortage (Modigliani et al. 1987; Burda 1988; Bean 1989)[1].

We will principally discuss the 'outsider characteristics' explanation. In their influential 1991 textbook, R. Layard, S. Nickell and R. Jackman (or LNJ for short), use the acronym NAIRU, which stands for 'non accelerating-inflation rate of unemployment'. The long-run NAIRU happens to be equal to the natural rate of unemployment. However, there is some 'short-run NAIRU', consistent with stable inflation, which, violating the natural rate hypothesis, can partly be determined by nominal variables, such as aggregate demand, which affect actual unemployment. Therefore, 'there is short-term "hysteresis", in the sense that past events affect the current short-run NAIRU. But there is no long-term "hysteresis": there is a unique long-term NAIRU. In the end, the unemployment rate always reverts.' (LNJ 1991, p. 10).

The underlying mechanism is as follows. An increase in actual unemployment rates leads to an increase of long-term unemployment. For reasons which will be elaborated later (see 3.1.2), long-term unemployment leads to a distance between the long-term unemployed and the labour market, in fact rendering them unemployable. Therefore, they no longer exert a downward pressure on wages, which is in a sense a change in the structural characteristics of the labour market. The effectiveness of a given level of unemployment i.e. the exertion of a downward pressure on the wage is lower, the higher the share of the long-term unemployed. The equilibrium rate of unemployment determined by wage-setting and price-setting, will therefore at any given level of unemployment be higher, the higher the share of the long-term unemployed.

For the sake of completeness, it should be mentioned that LNJ also consider insider power as a potential source for hysteresis. The argument runs essentially as follows: 'if last year's workforce was small relative to this year's expected employment, then [requesting] a higher wage this year will involve little extra risk, since most existing workers are already safe.' (LNJ 1991, p. 28). However, on the basis of empirical evidence, they conclude that the outsider is more important than this insider variant.

The capital shortage version of hysteresis states that depressed demand has negative effects on investment and capital accumulation, induced by the reduction of capacity utilisation (Heylen 1993).

The measurement of persistence has been a hot topic in applied econometrics, but has now

[1] Some other references are Bean 1994; Cross 1995; Cross et al. 1997; Franz 1990; Graafland 1990; Roed 1997.

Hysteresis

Hysteresis is derived from the ancient Greek υστερεω, meaning to come later, and was first used in physics by James Ewing in 1881 (Cross 1995). Amable et al. 1995, as well as Cross 1995, argue that the hysteresis concept as used in economics, does not square with the usage of the term in physical sciences. Although this is largely a discussion of semantics, the arguments are convincing:

Hysteresis in essentially a non-linear phenomenon, as opposed to the linear version used in economics. 'The equilibrium unemployment rate no longer returns to the status quo ante once a temporary shock is reversed, but instead displays remanence. This means that the new equilibrium will not be the same as the old, but will remain displaced' (which can not be reconciled with the natural rate hypothesis). Moreover, 'the equilibrium rate of unemployment retains a selective memory of past shocks: It neither forgets all past shocks, as in the natural rate hypothesis; nor does it, like the elephant, remember all past shocks'. 'Only the non-dominated extremum values of shocks affect the equilibrium path', implying that 'shocks arising from changes in nominal variables, can, by way of the selective memory process, shape the equilibrium path for unemployment'. Which, again, contradicts the natural rate hypothesis.

What is generally called 'hysteresis' in economic usage, therefore, is not hysteresis at all, but rather 'a form of persistence of deviations from the natural equilibrium path'. From now on, we will avoid usage of the term 'hysteresis', and will speak about 'persistence' instead.

been pushed somewhat into the background. Models that attempt to model the dynamic behaviour of unemployment are to some extent rather empty or data driven, and, at best, say something about persistence, but seldom are able to discriminate between the possible causes or mechanisms of this persistence, and are thus not particularly helpful from a policy point of view. Moreover, the statistical tests used in these exercises are often questioned (since they have very low 'power' against alternatives).

A recent collection of papers (Henry and Snower 1996) from the IMF (International Monetary Fund) is interesting because, using a comparable methodology for different European countries, it concludes that there is quite a lot of variation in the degree of persistence between individual European countries. The authors use structural VAR[2] models, simultaneously modelling the dynamic behaviour of (un)-employment, labour force and wage formation. Table 3 gives model simulations of a temporary labour demand shock (see p. 26). (The authors also investigate the dynamics of permanent shocks).

Though these results should be handled with care, they suggest that most major European economies exhibit a substantial degree of unemployment persistence (Spain is also included in the study, albeit not in the table). Moreover, they suggest that the degree to which each country is characterised by this persistence, differs significantly. 'In France, persistence seems relatively low, but the minimum wage and social security policy have probably led to high trend rates in unemployment. Over the 1980s, unemployment has risen in Spain, but persistence has declined. In Germany [...] the

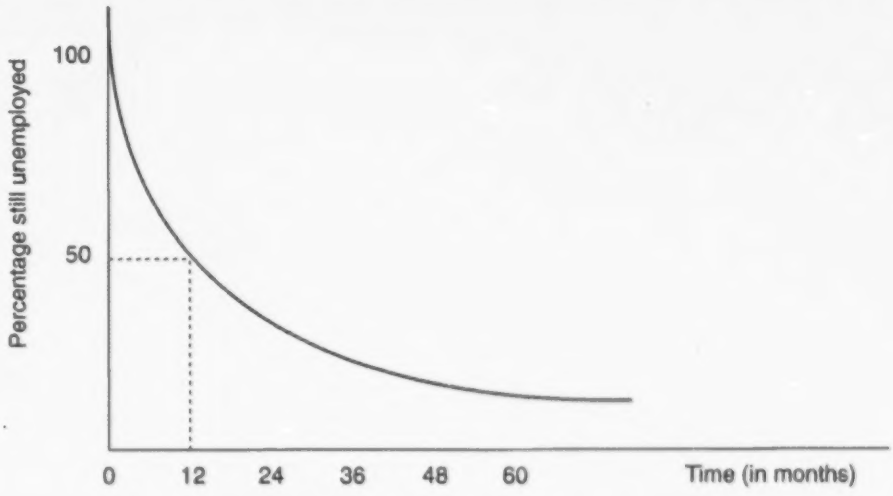
Table 3: Unemployment: Indices of persistence

	Mean lag* (in years)
France	3.0
Germany (West)	6.5
Italy	5.0
United Kingdom	5.0

* The mean lag is the familiar half-life of the response to the shock. Half-lives are taken to be the time taken to get halfway to full equilibrium, in the case of a temporary shock, this means halfway to the base solution.

[2] VAR stands for vector autoregression, which is the multiple time-series generalisation of the more usual (single) autoregression, in which a variable is regressed on its own past values. Traditional macroeconomic model-building is very theory driven, (an) economic theory is necessary to impose restrictions. The VAR approach on the other hand, is rather atheoretical, just trying to model and forecast the simultaneous behaviour of the important macroeconomic variables, with as little interference of theory as possible.

Figure 3: Survivor curve: % of inflowers that remain unemployed after x months



responsiveness of the general labour market to shocks appears low [...]. Italy and the United Kingdom exemplify policy initiatives that can improve the resilience of the economy to shocks. The evidence that this is happening is not clear, however, even in the United Kingdom, where reform has been in train for over a decade.' (see p. 31-32). Persistence in Spain is confirmed by Dolado and Jimeno 1997. Some other recent studies are Song and Wu 1997, 1998; both using panel data and panel-based tests, and Roed 1996. The only robust result seems to be that the hysteresis hypothesis is rejected for the US. For other countries, results remain rather inconclusive.

3.1.2 The duration of unemployment

The persistence in the LNJ view of the world is, to a large extent, due to the existence of long-term unemployment. In this section we review how long-term unemployment could lead to persistence. We start with a short description of exit rates.

3.1.2.1 Exit rates

Consider an age group (cohort) of persons who become unemployed at a given moment t. As time goes by, some will leave unemployment (because they find a job, or because they leave the labour force), while others will remain in unemployment. This can be graphically illustrated with a so-called survivor curve (Figure 3).

At point 0 on the horizontal axis, the cohort flows into unemployment. Therefore all, i.e. 100%, are still in unemployment. Twelve months later, in this example, 50% of the original group remain in unemployment ('survive'), indicating that in this first year 50% have left unemployment. The exit rate in this first year, i.e. the probability of leaving, is thus 50%. In the same fashion, we can compute the exit rate in the second year as the ratio of the number of persons who will have left unemployment by the end of the second year to the number of persons who were still unemployed at the beginning of the second year.

Exit rates are taken over time periods of one year. It is of course possible to extend the idea to shorter periods of time, e.g. months, or weeks. By the same logic, one can make the time period infinitesimally small. In this case, the exit rate is called a hazard rate. The hazard rate is an instantaneous exit rate, or, in other words, the probability of leaving a particular state (e.g. unemployment) at point t (say, after 12 months), given that one has remained in that state until t (say, during 12

848

months). Over time, hazard rates can be either constant, increasing or decreasing. A constant hazard implies that the probability of leaving unemployment does not change over time, i.e. the duration of the unemployment spell does not influence the exit probability ('someone who is long-term unemployed has, *ceteris paribus*, essentially the same probability of leaving unemployment today as someone who is only in unemployment since six months').

When the hazard is not constant, one speaks of duration dependence. When the hazard is decreasing over time, also called negative duration dependence, the probability of leaving unemployment becomes smaller, the longer one remains unemployed. The reverse holds in case of positive duration dependence, i.e. when the hazard rate increases.

3.1.2.2 State dependence

People do differ. Characteristics such as age, gender, educational attainment, work experience, ethnicity, etc. do have an important impact on the probability of leaving (and in the first place, on the probability of entering) unemployment. When one states that there is negative duration dependence in the hazard rates out of unemployment, one actually claims that the length of the stay in unemployment, i.e. the duration itself has, in some sense an autonomous impact on the exit probability, over and above the impact of the aforementioned individual characteristics. Negative duration dependence implies that something happens or changes during the stay in unemployment, either because the unemployed themselves change, or because they are perceived to have changed.

In fact, there is a huge and thusfar unresolved debate on these matters. A lot of research points to negative duration dependence and thus state dependence, but there is also a lot of evidence that points to the absence of duration dependence. In this last case, observed differences in hazard rates are completely accounted for by heterogeneity, i.e. personal characteristics that were already present at the beginning of the unemployment spell (in Section 4.1 the evidence will be surveyed).

Assuming that negative duration dependence is present, there have to be some processes or forces that act during the course of the unemployment spell. Some of these processes are readily identifiable.

- The fact of being unemployed, especially for persons that find it hard to find another job, can trigger off a process of *discouragement* and *demotivation*, which eventually can lead to *habituation* and *resignation* (see Section 4.2). This will probably lead to a reduction of the job search activity, and hence to a reduction of the exit probability.

- Being in unemployment, particularly long-term, can lead to a *loss* or an *erosion* of acquired skills (be it skills acquired by formal or informal learning, or more general skills (such as reading and writing) or more specific skills) (Phelps 1972a; Pissarides 1992; Acemoglu 1992). Moreover, even if there is no loss, previously acquired skills and knowledge can quickly become obsolete and outdated when no longer used and updated. Working is, in a sense, continuous training on the job (Section 4.3). If erosion and depreciation of skills take place over an unemployment spell, there is a direct effect on employability, and hence on the exit probability.

- Unemployment, and more particularly long-term unemployment, is said to affect work attitudes and work discipline (Phelps 1972a) such as keeping appointments (e.g. starting on time), accepting authority, being able to concentrate on one task for a longer period, social functioning and in general meeting the strict requirements which exist within most labour situations. This process does not necessarily affect the individual's employability in a direct way, since a loss of work attitudes is not always directly observable and often only becomes apparent after he/she has been hired. Indirectly, it can be of influence if potential employers come to associate long-term unemployment with loss of work attitudes.

- This last mechanism can be generalised as a loss of *reputation* argument. Given that a hiring process is a situation with asym-

metrical information, where the potential employer normally has only limited information about the productivity of a potential employee, employers may use the unemployment duration as a signal of productivity, and thus rank candidates by their unemployment duration (Blanchard 1991; Blanchard and Diamond 1994) (see Section 4.4). This can be seen as a form of statistical discrimination (Phelps 1972b; Arrow 1972). If this mechanism acts, the hazard rate obviously will decrease with duration. Note that this will be the case, even if the former explanations have no or only a marginal significance (Cockx 1998). This mechanism will possibly be reinforced if public employment services discriminate between unemployed with different unemployment durations (Winter-Ebmer 1991). The common practice of ranking unemployed by their employability in order to tailor activities, can easily become a self-fulfilling prophecy.

3.1.3 Relation with observed facts and policy conclusions

Two of the most singular stylised facts from Section 2.3, namely persistent unemployment and the apparently shifted Beveridge-curve, can be readily explained. A rise in unemployment, due to a succession of severe negative shocks, leads to long-term unemployment. The long-term unemployed become disenfranchised from the labour market, which, through the mechanism(s) described above, leads to persistence. As the long-term unemployed become unemployable, the number of effective unemployed will be lower than the total number of unemployed, and therefore, a higher unemployment rate will be compatible with a given vacancy rate.

As to the huge differences between the unemployment rates of different skill levels, LNJ observe that the lower skilled are more likely to become unemployed than higher skill groups, but that, once unemployed, they do not remain unemployed longer.[3] Therefore their higher unemployment rates are primarily due to higher inflow rates and not to a longer average duration (LNJ, 1991, p. 44-45, figures for Britain 1984 and the USA 1987). The authors acknowledge the importance of skill mismatch, but argue that skill (and other) mismatches are not a new phenomenon. Mismatch existed before the advent of the rise in European unemployment, and moreover, according to the authors, did not increase afterwards (except Sweden). Therefore, in their opinion, skill mismatch can not be held responsible for the observed changes in unemployment.

What has changed over the past decades, is the emergence and tremendous growth of long-term unemployment. The policy implications thus center on the prevention of long-term unemployment and the activation of the (long-term) unemployed. If long-term unemployment leads to discouragement and habituation, loss of skills and worker attitudes, it is important to act preventively by creating e.g. temporary work experience and recruitment subsidies programmes to prevent the disenfranchising processes. The long-term unemployed on the other hand, can be reactivated by training programmes that upgrade lost or outdated skills, and reestablish worker attitudes. Mandatory participation can be a solution for problems of habituation, while job-search programmes can be a remedy for discouragement (Cockx 1998).

These are the main ingredients of what has come to be known as active labour market policy (Calmfors 1994). These policies are strongly advocated by the OECD (1994), and are also recommended by the EU Luxembourg Summit of 1997.

3.2 Structural unemployment and skill mismatch

3.2.1 A shift in the demand for unskilled workers

In the persistence-framework elaborated in the previous sections, a rise in actual unemployment can have long-lasting consequences, but the underlying equilibrium unemployment rate is not necessarily affected. In the

[3] This empirical evidence produced by LNJ relates only to the US and UK labour markets which are hardly comparable with continental economies.

850

end unemployment will tend to its long-run equilibrium. Active labour market policies will be necessary to enfranchise disenfranchised workers, but once this has been achieved, these policies are no longer needed.

A rival view states that during the course of past decades, not only actual, but also equilibrium unemployment rates have increased. This line of reasoning builds on the observation that over time, there has been a dramatic deterioration in the position of the low-skilled members of the labour force. In Europe, the shift in demand against the low skilled reveals itself in growing unemployment differentials between higher and lower-skilled workers. In the US labour market on the other hand, where wage rigidity is lower, the demand shift manifests itself through a substantial decline in the relative wages of the lower skilled, generating an increase in wage inequality.

Over time the qualification level of the population increases (Tessaring 1998). The shift in demand against the low-skilled, however, is not counterbalanced by this analogous shift in the skill composition of labour supply. Given the downward rigid wages, the low-skilled get struck in unemployment, and become long-term unemployed. Long-term unemployment persists because those unemployed do not possess the skills demanded by the labour market, and not, or not necessarily, because they become disenfranchised. In other words, this view does not demand negative duration dependence in the exit rates from unemployment, and can be compatible with pure heterogeneity (compare Section 3.1.2.2).

The demand shift against the low-skilled, together with the relative wage rigidity, is seen by several authors as an explanation for the persistence of high unemployment in Europe (Krugman 1994; Drèze and Sneessens 1997). It is in this context that the notion 'skill mismatch' is introduced. Loosely speaking, skill mismatch is a mismatch between the skill composition of labour demand and supply. However, before elaborating this concept, we will give some figures on the claimed demand shift against the low-skilled, and subsequently, a brief overview of possible causes.

For the time being, educational attainment is taken as a proxy for skill level (see Section 3.2.4). But even then, it is difficult to obtain figures that are really comparable over longer time periods (due to changing definitions of unemployment, changing categories of educational attainment, etc.).

Table 4 records the evolution of unemployment rates for low and high education groups for several countries. The table is taken from Nickell and Bell 1996, p. 303. It gives unemployment rates for low and high education groups over time, and only for males (the relationship between unemployment and skill level tends to be stronger for males, OECD 1994). It indicates that there has indeed been a deterioration for the low education groups over time, although a reverse process has taken place in some countries more recently. The North American countries and the UK are said to have a less rigid wage formation, which is thought to account for their particular evolution (Blau and Kahn 1996). Table 5 gives some indications about the evolution of relative wages, and it suggests that earnings inequality in the US has increased, while the same seems to be the case in the UK more recently.

Some more recent figures can be found in Tables 6 to 8 which confirm that the unemployment risk is unevenly distributed among the working population: typically unemployment rates decline with educational attainment, Italy, Portugal and Spain being remarkable exceptions.

3.2.2 Structural changes

There has undeniably been a shift in demand against the low-skilled, particularly during the 1980s. How can this be explained? The three following explanations are put forward (Drèze and Sneessens 1997):

a) skill-biased technological change: the introduction of new technologies leads to an increase in demand for more highly-skilled labour, at the expense of the low-skilled. The underlying mechanisms are related to the fact that more highly-skilled labour can adapt more easily to new technologies, many types of new technology are related

Table 4: Unemployment rates by level of educational attainment (males only)

Country		1971-82	1983-90	1991-93
Germany	Total (UR)	3.1	5.6	4.1
	High education (UR_h)	1.7	3.1	2.2
	Low education (UR_l)	6.4	13.0	10.7
	Ratio (UR_l / UR_h)	3.8	4.2	4.9
	Difference (UR_l-UR_h)	4.7	9.9	8.5
Italy	Total (UR)	7.7	11.2	11.2
	High education (UR_h)	12.2	13.1	12.5
	Low education (UR_l)	4.6	7.3	7.5
	Ratio (UR_l / UR_h)	0.38	0.55	0.6
	Difference (UR_l-UR_h)	-4.7	-5.8	-5.0
Netherlands	Total (UR)	6.3	10.0	6.8
	High education (UR_h)	3.2	5.7	5.0
	Low education (UR_l)	7.0	14.0	9.9
	Ratio (UR_l / UR_h)	2.2	2.5	2.0
	Difference (UR_l-UR_h)	3.8	8.3	4.9
Spain	Total (UR)	8.9	16.9	15.1
	High education (UR_h)	6.2	9.9	9.0
	Low education (UR_l)	10.6	19.6	20.0
	Ratio (UR_l / UR_h)	1.7	2.0	2.2
	Difference (UR_l-UR_h)	4.4	9.7	11.0
Sweden	Total (UR)	2.4	2.5	5.8
	High education (UR_h)	1.0	1.1	2.8
	Low education (UR_l)	2.9	3.3	6.9
	Ratio (UR_l / UR_h)	2.9	3.0	2.5
	Difference (UR_l-UR_h)	1.9	2.2	4.1
UK	Total (UR)	5.0	9.0	10.8
	High education (UR_h)	2.4	4.4	6.2
	Low education (UR_l)	7.5	15.9	17.1
	Ratio (UR_l / UR_h)	3.1	3.6	2.6
	Difference (UR_l-UR_h)	5.1	11.5	10.9
Canada	Total (UR)	6.8	9.1	11.5
	High education (UR_h)	2.5	3.9	5.1
	Low education (UR_l)	8.3	11.9	16.1
	Ratio (UR_l / UR_h)	3.3	3.1	3.2
	Difference (UR_l-UR_h)	5.8	8.0	11.0
US	Total (UR)	4.9	6.2	6.0
	High education (UR_h)	2.0	2.4	3.0
	Low education (UR_l)	7.8	11.3	11.0
	Ratio (UR_l / UR_h)	3.9	4.7	3.7
	Difference (UR_l-UR_h)	5.8	8.9	8.0

Source: Nickell and Bell, 1996; See Nickell and Bell, 1995 for sources and construction.

Table 5: Ratio of earnings by educational qualification: level E/level A (levels D and E/level A for Germany)

	Early 1970s	Late 1970s	Early 1980s	Middle/late 1980s	Early 1990s
France, men	3.85	4.23		3.81	
France, women	3.11	3.20		3.11	
Germany, men			2.00	1.94	
Netherlands, men			1.96	1.86	
Netherlands, women			2.20	1.87	
UK, men	1.83	1.69		1.87	2.04
US, men	1.92	1.94		2.33	2.47
US, women	1.85	1.78		2.15	2.32

Source: OECD job study, 1994. Level A corresponds to primary education or no qualifications, level E corresponds to university education or equivalent.

to machines taking over the repetitive tasks traditionally performed by low-skilled labour and the observation that computer technology leads to a greater increase in productivity among more highly-skilled workers than low-skilled workers;

b) 'deindustrialisation': the structural shift from employment in industrial sectors to the services sectors. Many jobs have been lost in industry. Moreover, this loss of employment relates largely to low-skilled jobs, as is clear from the fact that in the 1980s, employment among white-collar, highly-skilled employees in industry in countries such as Germany, France and Italy actually increased (OECD 1996). The ad hoc labour market survey of the EC, conducted in 1994, shows that 70% of all jobs in industry and retail are skilled jobs (Tessaring 1998);

c) increased competition from low-wage countries which have abundant low-skilled, low-paid labour. This can be interpreted as an increased implicit supply of less educated workers.

A quantitative assessment of these three effects and of their relative importance is difficult. There still remains a vigorous debate as to the question whether these effects actually do exist. This can hardly be surprising, given that, referring once again to the quotation of Blanchard and Summers in Section 3.1.1, the 'hysteresis'-assumption in the first place was put forward because there were few identifiable shocks which could explain the unemployment history in the 1980s.

As to the last effect, trade with low-wage countries has indeed risen over time: the proportion of imports into EU countries from non-OECD countries amounted to 5% in 1970 and had risen to 12% by 1990 (OECD 1996). From a traditional Heckscher-Ohlin model of trade, one can deduce that, given certain conditions, this kind of trade will eventually lead to an equalisation of factor prices (wages) between the trading countries. None the less, most studies on this matter observe that this increase only had a relatively small effect on the division of wages and employment (OECD 1996). The main argument is that, although trade with low-wage countries has increased, overall this trade is relatively small within European GNP. Moreover, this type of trade relates chiefly to manufactured goods and therefore primarily exerts an influence on the secondary sector, a sector that is increasingly losing importance.

'Deindustrialisation' on the other hand, can hardly be denied. However, the destruction of jobs in the secondary sector in many countries went together with a dramatic increase in service sector employment. Moreover, in addition to the many highly-skilled jobs, many low-skilled white-collar jobs have been created in the services sectors of the aforementioned countries.

Table 6: Unemployment rates by level of educational attainment (male and female)

		1989	1992	1995
Germany	Pre-primary, primary	x	x	13.3
	Lower secondary	13.8	8.9	
	Upper secondary	6.8	6.4	7.9
	Higher non-university	3.7	4.5	5.2
	University	4.5	3.7	4.7
	Total	7.3	6.2	8.1
Italy	Pre-primary, primary	5.9	6.5	9.1
	Lower secondary	6.8	7.8	
	Upper secondary	7.7	8.2	7.9
	Higher non-university	x	x	x
	University	4.8	6.0	7.3
	Total	6.6	7.4	8.5
Netherlands	Pre-primary, primary	13.6	11.1	07.9
	Lower secondary	7.6	6.5	
	Upper secondary	4.8	4.7	4.8
	Higher non-university	4.6	x	x
	University	5.0	3.9	4.1
	Total	6.5	5.6	5.6
Spain	Pre-primary, primary	12.7	15.3	20.6
	Lower secondary	15.6	17.6	
	Upper secondary	13.1	14.1	18.5
	Higher non-university	x	12.5	16.6
	University	10.7	9.9	13.8
	Total	12.9	14.7	19.0
Sweden	Pre-primary, primary	x	x	10.1
	Lower secondary	1.4	4.6	
	Upper secondary	0.9	4.3	8.7
	Higher non-university	0.9	2.3	4.8
	University	1.0	2.0	4.2
	Total	1.0	3.8	7.8
UK	Pre-primary, primary	x	x	12.2
	Lower secondary	10.0	12.3	
	Upper secondary	5.6	8.3	7.4
	Higher non-university	2.7	3.3	4.1
	University	2.4	3.6	3.5
	Total	6.4	8.4	7.4
Canada	Pre-primary, primary	10.3	15.5	13.0
	Lower secondary	9.8	15.0	
	Upper secondary	6.8	9.7	8.6
	Higher non-university	5.0	9.0	7.5
	University	3.6	5.2	4.6
	Total	6.7	10.0	8.3
US	Pre-primary, primary	8.5	13.2	10.0
	Lower secondary	9.1	13.7	
	Upper secondary	4.6	7.2	5.0
	Higher non-university	3.3	4.6	3.6
	University	2.2	2.9	2.5
	Total	4.4	6.6	4.7

Table 6 (Continued)

		1989	1992	1995
Belgium	Pre-primary, primary	14.0	19.9	13.4
	Lower secondary	9.2	7.9	
	Upper secondary	4.7	4.7	7.5
	Higher non-university	2.7	2.3	3.5
	University	2.0	2.2	3.6
	Total	7.5	7.8	8.5
France	Pre-primary, primary	11.8	10.8	14.0
	Lower secondary	10.5	13.2	
	Upper secondary	6.6	7.4	8.9
	Higher non-university	3.4	4.6	5.9
	University	3.0	4.4	7.0
	Total	8.1	8.8	9.7
Ireland	Pre-primary, primary	25.8	22.5	16.4
	Lower secondary	15.1	17.3	
	Upper secondary	6.6	9.3	7.6
	Higher non-university	3.9	5.8	5.0
	University	2.6	3.3	3.4
	Total	13.9	13.6	10.7
Portugal	Pre-primary, primary	6.0	5.4	6.2
	Lower secondary	5.8	5.1	
	Upper secondary	6.4	4.5	6.4
	Higher non-university	6.0	1.9	3.1
	University	6.1	1.8	3.3
	Total	6.0	4.9	5.8
Denmark	Pre-primary, primary	x	x	14.6
	Lower secondary	12.1	15.6	
	Upper secondary	7.1	9.1	8.3
	Higher non-university	4.0	5.8	5.3
	University	3.4	4.8	4.3
	Total	8.3	10.6	10.0
Finland	Pre-primary, primary	x	x	21.6
	Lower secondary	4.1	14.9	
	Upper secondary	3.1	12.1	16.1
	Higher non-university	1.6	5.7	9.7
	University	1.7	3.4	6.2
	Total	3.0	11.4	15.8
Austria	Pre-primary, primary	x	x	5.7
	Lower secondary	3.6	5.6	
	Upper secondary	2.4	3.2	2.9
	Higher non-university	x	x	1.4
	University	1.1	1.3	2.1
	Total	2.7	3.6	3.5

Source: OECD, Education at a glance, several issues; Figures for persons aged 25-64.

Legend: x=no data available

Table 7: Unemployment rates by educational attainment (persons aged 25 to 59)

		1995	1996	1997
B	Third level education (UR_h)	3.4	3.7	3.3
	Upper secondary (UR_m)	7.7	7.6	7.0
	Less than upper secondary (UR_l)	12.4	13.6	12.8
	Total (UR)	8.1	8.4	7.7
	Ratio1 (UR_l / UR_h)	3.6	3.7	3.9
	Ratio2 (UR_l / UR_m)	1.2	1.8	1.8
DK	Third level education (UR_h)	4.9	3.8	3.4
	Upper secondary (UR_m)	6.0	6.0	4.6
	Less than upper secondary (UR_l)	10.4	10.4	8.1
	Total (UR)	6.4	6.1	4.9
	Ratio1 (UR_l / UR_h)	2.2	2.7	2.4
	Ratio2 (UR_l / UR_m)	1.7	1.7	1.8
D	Third level education (UR_h)	4.9	5.3	x
	Upper secondary (UR_m)	8.1	8.8	x
	Less than upper secondary (UR_l)	14.2	14.5	x
	Total (UR)	8.2	8.8	x
	Ratio1 (UR_l / UR_h)	2.9	2.7	x
	Ratio2 (UR_l / UR_m)	1.7	1.6	x
GR	Third level education (UR_h)	5.7	5.6	5.6
	Upper secondary (UR_m)	8.6	9.1	9.0
	Less than upper secondary (UR_l)	6.4	6.7	6.7
	Total (UR)	7.0	7.3	7.3
	Ratio1 (UR_l / UR_h)	1.1	1.2	1.2
	Ratio2 (UR_l / UR_m)	0.74	0.74	0.74
E	Third level education (UR_h)	14.7	14.3	13.6
	Upper secondary (UR_m)	19.3	17.9	17.5
	Less than upper secondary (UR_l)	21.1	21.2	19.9
	Total (UR)	19.4	19.0	17.9
	Ratio1 (UR_l / UR_h)	1.4	1.5	1.5
	Ratio2 (UR_l / UR_m)	1.0	1.2	1.1
F	Third level education (UR_h)	6.5	6.5	6.7
	Upper secondary (UR_m)	9.1	9.9	9.8
	Less than upper secondary (UR_l)	14.1	14.8	15.3
	Total (UR)	10.2	10.9	11.0
	Ratio1 (UR_l / UR_h)	2.2	2.3	2.3
	Ratio2 (UR_l / UR_m)	1.6	1.5	1.5
IRL	Third level education (UR_h)	4.2	4.2	3.4
	Upper secondary (UR_m)	7.5	7.3	6.5
	Less than upper secondary (UR_l)	16.9	17.3	14.9
	Total (UR)	10.8	10.7	9.2
	Ratio1 (UR_l / UR_h)	4.0	4.1	4.4
	Ratio2 (UR_l / UR_m)	2.2	2.4	2.3
I	Third level education (UR_h)	7.1	6.4	7.0
	Upper secondary (UR_m)	7.6	8.0	8.1
	Less than upper secondary (UR_l)	9.6	10.1	10.6
	Total (UR)	8.6	9.0	9.2
	Ratio1 (UR_l / UR_h)	1.3	1.6	1.5
	Ratio2 (UR_l / UR_m)	1.3	1.3	1.3

Table 7: (continued)

		1995	1996	1997
NL	Third level education (UR_h)	4.7	4.0	3.3
	Upper secondary (UR_m)	5.8	4.8	4.0
	Less than upper secondary (UR_l)	10.7	8.1	7.2
	Total (UR)	6.2	5.5	4.7
	Ratio1 (UR_l / UR_h)	2.3	2.0	2.2
	Ratio2 (UR_l / UR_m)	1.8	1.7	1.8
A	Third level education (UR_h)	2.4	2.6	2.7
	Upper secondary (UR_m)	3.7	4.7	4.2
	Less than upper secondary (UR_l)	6.0	7.4	7.5
	Total (UR)	4.1	5.1	4.8
	Ratio1 (UR_l / UR_h)	2.5	2.8	2.8
	Ratio2 (UR_l / UR_m)	1.6	1.6	1.8
P	Third level education (UR_h)	3.2	3.3	2.3
	Upper secondary (UR_m)	6.7	6.1	6.5
	Less than upper secondary (UR_l)	6.4	6.8	6.2
	Total (UR)	6.0	6.2	5.7
	Ratio1 (UR_l / UR_h)	2.0	2.0	2.7
	Ratio2 (UR_l / UR_m)	0.95	1.1	0.95
FIN	Third level education (UR_h)	8.9	6.7	5.7
	Upper secondary (UR_m)	15.5	12.7	13.4
	Less than upper secondary (UR_l)	18.8	17.0	16.8
	Total (UR)	14.2	12.4	12.4
	Ratio1 (UR_l / UR_h)	2.1	2.5	2.9
	Ratio2 (UR_l / UR_m)	1.2	1.3	1.2
S	Third level education (UR_h)	3.5	4.3	4.1
	Upper secondary (UR_m)	7.7	9.5	10.1
	Less than upper secondary (UR_l)	8.9	10.0	11.9
	Total (UR)	6.7	8.2	8.9
	Ratio1 (UR_l / UR_h)	2.5	2.3	2.9
	Ratio2 (UR_l / UR_m)	1.2	1.0	1.2
UK	Third level education (UR_h)	3.8	3.6	3.0
	Upper secondary (UR_m)	7.2	6.6	5.8
	Less than upper secondary (UR_l)	9.8	9.4	7.90
	Total (UR)	7.5	7.0	5.9
	Ratio1 (UR_l / UR_h)	2.6	2.6	2.6
	Ratio2 (UR_l / UR_m)	1.4	1.4	1.4

Source: Eurostat, labour force survey.

Legend: x=no data available

Table 8: Unemployment rates by educational attainment (males aged 25 to 59)

		1995	1996	1997	1995-97
D	Third level education (UR_h)	4.2	4.7	x	
	Upper secondary (UR_m)	6.5	7.9	x	
	Less than upper secondary (UR_l)	14.3	15.5	x	
	Total (UR)	6.9	8.0	x	
	Ratio1 (UR_l / UR_h)	3.4	3.3	x	
	Ratio2 (UR_l / UR_m)	2.2	2.0	x	
I	Third level education (UR_h)	4.5	4.6	5.2	4.8
	Upper secondary (UR_m)	5.3	5.8	6.1	5.7
	Less than upper secondary (UR_l)	7.5	7.9	8.4	7.9
	Total (UR)	6.5	6.9	7.3	6.9
	Ratio1 (UR_l / UR_h)	1.7	1.7	1.6	1.7
	Ratio2 (UR_l / UR_m)	1.4	1.4	1.4	1.4
NL	Third level education (UR_h)	4.3	03.5	2.8	3.5
	Upper secondary (UR_m)	4.7	3.4	2.9	3.7
	Less than upper secondary (UR_l)	9.5	6.3	5.2	7.0
	Total (UR)	5.3	4.3	3.5	4.4
	Ratio1 (UR_l / UR_h)	2.2	1.8	1.9	2.0
	Ratio2 (UR_l / UR_m)	2.0	1.8	1.8	1.9
E	Third level education (UR_h)	10.7	10.3	9.8	10.3
	Upper secondary (UR_m)	13.4	12.1	11.6	12.4
	Less than upper secondary (UR_l)	16.8	17.1	15.7	16.5
	Total (UR)	15.1	14.9	13.8	14.6
	Ratio1 (UR_l / UR_h)	1.6	1.7	1.6	1.6
	Ratio2 (UR_l / UR_m)	1.2	1.4	1.3	1.3
S	Third level education (UR_h)	3.6	5.1	5.1	4.6
	Upper secondary (UR_m)	8.7	10.4	10.4	9.8
	Less than upper secondary (UR_l)	9.6	10.7	11.9	10.7
	Total (UR)	7.6	9.1	9.6	8.8
	Ratio1 (UR_l / UR_h)	2.7	2.0	2.3	2.3
	Ratio2 (UR_l / UR_m)	1.1	1.0	1.1	1.1
UK	Third level education (UR_h)	4.2	4.2	3.3	3.9
	Upper secondary (UR_m)	7.9	7.2	6.2	7.1
	Less than upper secondary (UR_l)	12.3	11.9	9.7	11.3
	Total (UR)	8.7	8.2	6.7	7.9
	Ratio1 (UR_l / UR_h)	2.9	2.8	2.9	2.9
	Ratio2 (UR_l / UR_m)	1.5	1.6	1.5	1.5

Legend: x=no data available

This leaves the skill-biased technological change argument (or SBTC for short) as the main culprit, to some extent by default. A powerful counter argument against the role of SBTC is that, at least in the long run, there is no relationship between technological change (and SBTC for that matter) and unemployment: 'output per head has roughly tripled since the middle of the nineteenth century, yet the average unemployment rate has remained virtually unchanged' (Bean and Pissarides 1991, p. 330).

However, this does not necessarily preclude that there can be a short run relationship. In fact, in recent years there has been a renewed research interest in the issue of SBTC. The general proliferation of computer technology

858

in the 1980s is regarded as an important explanation for the asymmetrical effects of technological change (Krueger 1993; Autor et al. 1998). Machin and Van Reenen (1998) find a strong relationship between technical change (measured both by R&D intensity and by computer usage) and the changing relative demand for skilled workers, not only for the US and Japan, but also for a number of European countries (Denmark, France, Germany, Sweden and the UK).

Berman et al. (1998) state that a comparable kind of SBTC occurred simultaneously in many countries (the research is limited to the manufacturing sector) in the 1980s and 1990s, and therefore can be regarded as pervasive. Draper and Manders (1997) conclude that in the Netherlands, over the period 1972-93, labour-saving technological change explains most of the displacement of low-skilled workers. Greenhalgh et al. (1997) conclude for the UK that, although trade and technological change both have a negative impact on the employment of the lower skilled, and changing domestic demand was more favourable for higher skilled workers, the technological change effects were by far the largest. This is confirmed by Machin (1996).

Summing up, one can conclude that most authors give the highest weight to the SBTC argument, while trade and deindustrialisation effects seem to have had a minor contribution. However, even the role of SBTC has not been unchallenged, and the empirical evidence remains fairly limited and circumstantial, as stressed by Drèze and Sneessens (1997). These authors, on the other hand, warn that some of the described mechanisms can become more important in the future. European trade with low wage countries having been relatively negligible to date, presumably will become more important. In particular, trade with eastern Europe is thought to be still far from having exerted its full effects.

3.2.3 Mismatch

When a jobseeker finds a job, a match has been realised between a worker and a vacancy. This matching process not only relates to what is conventionally described as the labour market, but also occurs within firms, i.e. on internal labour markets (Schettkat 1992). A mismatch situation then refers to a situation where some matches for one reason or another are difficult to achieve, resulting in either vacancies that remain unfilled, or in high unemployment in certain regions or among certain groups, and possibly the simultaneous existence of both difficult to fill vacancies and high unemployment.

This description of mismatch is rather loose, reflecting to some extent the state of the art of mismatch research. Quoting the editor of an influential book on the proceedings of a conference on mismatch:

'The major result of this volume, in my opinion, consists in highlighting the looseness of the "mismatch" concept [...] which explains why different mismatch definitions lead to such widely varying judgements on the same observable facts' (Padoa-Schioppa 1991, p. 2).

One element on which there seems to be growing consensus, is the fact that the use of the concept 'mismatch' is to be limited to structural, long-term imbalances. This implies that frictional unemployment, induced by turnover and job search, and resulting in a permanent coexistence of a certain level of unemployment and unfilled vacancies, is ruled out as a form of mismatch, since it is essentially a short-term phenomenon.

Different forms of mismatch can be distinguished:

- skill mismatch, which implies that there is a mismatch with respect to skills, i.e. that the skill requirements of jobs differ from the skill composition of labour supply;
- regional or geographic mismatch, which implies that there will be simultaneously regions which witness high unemployment, and regions where the labour market is tight. This is essentially a problem of low geographic mobility (either of workers or of jobs);
- industrial or sectoral mismatch, which, *to a certain degree can be* related to occupa-

tional and/or geographical mismatches, and therefore will not be *completely* independent.

3.2.4 Definitions and measurement problems

The measurement of mismatch is concerned with measuring the level and trends in mismatch. Several rival measures have been proposed. These measures are generally applicable for all kinds of mismatches. However, in what follows, we will focus on skill mismatch.

A first series of empirical measures use data on unemployment and vacancies. If U_i is the number of unemployed in category i, and U is total unemployment (over all categories), then the proportion of unemployed in category i (e.g. skill category, region, sector, etc.) is U_i/U, or u_i, for short. Analogously, if V_i is the number of vacancies in category i, and V the total number of vacancies, the share of category i is equal to V_i/V, denoted v_i. A first measure is as follows (Jackman and Roper 1987; Franz 1991):

$$M1 = (1/2) \sum_i | u_i - v_i |$$

If $u_i = v_i$ for all categories, M1 will be 0, indicating that the coexistence of unemployed and vacant jobs is not associated with a dispersion between categories. If there are no categories where there is simultaneously unemployment and vacancies, M1 will be equal to 1 (note that $\sum_i u_i = u = 1$, and analogously, $\sum_i v_i = v = 1$). A similar measure is as follows (Jackman and Roper 1987; Bean and Pissarides 1991):

$$M2 = 1 - \sum_i (u_i.v_i)^{1/2}$$

M2 will, like M1, move between 0 and 1, under the same conditions.

Though intuitively appealing, the practical application of these measures has been limited because few countries have suitable vacancy data. Vacancies are difficult to measure (Muysken 1994). In the first place, the notion has some ambiguous features. Muykens illustrates this with the following example, which is quite relevant for mismatch measures: 'let a vacancy turn out to be hard to fill and therefore be filled by somebody who is not really qualified. Then does the vacancy cease to exist?' (Muysken 1994, p. 1).

Secondly, as opposed to unemployment figures, generally there does not exist one specific channel through which all, or most, vacancies are posted. A lot of countries collect vacancy figures based on the registration of vacancies by the public employment services (PES). A problem with this source is that, apart from its rather administrative nature, employers often have little incentive to notify their vacancies, especially when unemployment is high. For Flanders (Belgium) for example, it is known that the number of vacancies registered at the PES is only a fraction of the total number of vacancies, despite a legal obligation for all enterprises (with 20 or more employees) to notify. In addition, the vacancies reported tend to be those which are hardest to fill.

A third problem with these administrative data, is the fact that they are sensitive to institutional changes and do not seem to be comparable over time, making it hard to detect trends. For Germany, an analysis based on the official unemployment and vacancy figures shows little if any shift in the U/V relationship since 1970. However, between 1970 and 1985 the share of vacancies mediated by the PES is thought to have fallen from 45% to under 25% (Abraham 1991). In the UK, an opposite trend has been witnessed; here the share of notified vacancies has increased over time (cited above).

Alternative sources of information about vacancies are the 'help-want' advertisement (e.g. in newspapers). Here is a danger of duplicate measurement, and it is also questionable whether advertisement behaviour has been constant over time, minimising the potential to detect real trends.

A last source of vacancy data, namely large vacancy surveys regularly conducted, happens to be the most reliable one. However, this approach is not very widespread because it is costly. In addition, countries that have conducted surveys have often only done so inci-

850

dentally, the Netherlands being an exception (Muysken 1994).

During the past few years in Belgium, an annual vacancy survey has been conducted (Simoens et al. 1997; Denolf and Denys 1996, 1998). These surveys suggest yet another potential problem for vacancy figures, which is more general, i.e. regardless of their source. It is shown that the required qualifications in vacancies are only one side of the picture: although for 1997, 42% of a representative sample of 1600 vacancies required only a lower secondary education degree, 67% of those low-skilled vacancies were eventually filled by candidates holding higher degrees. The same phenomenon of overeducation has been found for the other years.

Since disaggregated vacancy data are not available for many countries, or are not very reliable if they are, some mismatch measures have been proposed which only use information about unemployment. If N denotes the labour force (i.e. both workers and unemployed), and N_i is the corresponding number for category i, one can construct the following measure (Jackman, Layard and Savouri 1991):

$$M3 = (1/2) \text{ var } [(U_i/N_i)/(U/N)]$$

that is, measure 3 is based upon the dispersion (measured with the variance) of the relative unemployment rates for each category. Here one can discuss whether it is the dispersion of relative unemployment rates (as in M3) which is relevant or rather if the dispersion of absolute unemployment rates should be studied (var (U_i/N_i)). If aggregate unemployment U is not stable, e.g. is increasing, it is possible that the absolute and the relative measure will move in opposite directions.

As noted by Abraham (1991), if hiring behaviour differs between sectors (or between skill categories), a given categorical unemployment rate may imply quite different categorical vacancy rates. Then, an increase in the dispersion of categorical unemployment rates, holding mean unemployment constant, might either raise or lower the value of measures such as M1 and M2, which do take vacancy rates into account. In other words, if hiring behaviour differs between categories, neither the dispersion of absolute, nor relative unemployment rates is necessarily a good mismatch proxy.

On the other hand, if hiring behaviour is identical everywhere, it can be shown that both M1 and M2 depend on the dispersion of relative unemployment rates, which provides an argument for preferring the relative above the absolute variant.

However, this debate is far from concluded. Some authors derive on the basis of their theoretical model that relative unemployment rates are preferable to construct a mismatch indicator (Layard et al. 1991), while others, using another theoretical model, derive that the differences between unemployment rates are preferable (e.g. Sneessens and Shadman-Metha 1995, Sneessens et al. 1997).

Thus, Sneessens et al. 1997 argue that the variance of relative unemployment rates as a measure can be defended, provided one is willing to assume that for all categories the wages are equally sensitive to their own unemploment rates. This, according to these authors, need not be a very realistic assumption 'when the focus is on the effect of downward wage rigidities at the low end of the wage spectrum (least-skilled workers)' (see p. 8). In the event that for some category the wage is less sensitive to its own unemployment rate, (typically when categories relate to skills, less or not at all if categories relate to regions or sectors), the contribution of structural disturbances to the change in the equilibrium unemployment rate should be measured by the change in the discrepancy between the unemployment rates of each category, rather than by the variance of relative unemployment rates.

Another forceful critique of the variance of relative unemployment rates as a measure for mismatch has been made by Entorf (Entorf 1998). He derives that if unemployment figures reveal additive upward shifts, this measure will be biased towards zero. Both with deterministic and stochastic shifts, these

861

861

'measures of mismatch are likely to decline without any changes in the *relative* structure of sectors, skills or other grouping criteria' (Entorf 1998, p. 43). In addition, it is shown that there is empirical evidence for sustaining the claim that actual unemployment figures in fact behave like a non-stationary time series. Therefore, the mismatch trends based on this indicator might be a simple statistical artifact.

A feature by which all the measures are plagued, is the fact that the obtained results often crucially depend on the classification used, that is, whether the categories used are more or less disaggregated. If the unemployment categories are too fine, implying that workers who compete for the same kind of jobs are assigned to different categories, the mismatch may be exaggerated. If the categories are too coarse, probably the more realistic case, mismatch may be understated. Moreover, one can argue that, as regards skills, the degree of heterogeneity within classifications has risen over time, which, again, jeopardises the potential for studying trends. 'For example, factory operatives might once have been largely interchangeable, but today there may be an important distinction between factory operatives who have education or training that prepares them to work with computerised technologies and those who do not' (Abraham 1991, p. 466). Another disturbing feature, at least for occupational classifications, is that an occupation can easily change as is illustrated by the fact that a lot of job changers do report changes in occupation.

This may explain why skill measures in empirical applications often rely on educational categories, rather than on occupational or professional classifications. However, education as proxy for skills is not without its problems either. Skills can, broadly speaking, be acquired in three different ways: by formal education, by training and by experience (on-the-job training, work experience). When educational attainment is taken as proxy for the skill level, obviously two potentially important skill determinants are neglected.

As for the training component, which we define broadly to include all kinds of permanent and recurring adult education, it is well known that participation is not evenly distributed among the population. Typically, the higher educated tend to participate more in adult education and training (OECD 1997). Though the correlation between the acquired formal educational attainment and the probability of participating in adult education will be far from perfect, its existence suggests that neglect of the training aspect in an operationalisation of skills by educational attainment, is not necessarily a hindrance.

A similar relationship between the level of educational attainment and the probability of gaining work experience is less obvious (apart from the higher unemployment rates for the low skilled). However, one can argue that the 'low skill, bad job trap' (Snower 1996), where bad jobs are the ones associated with low wages, deficient training and low productivity, also relates to a rather limited potential to gain work experience valued by the labour market.

Educational attainment indices also have a few drawbacks. Educational categories used in different countries are notoriously difficult to compare, which hampers international comparisons. However, for the present purposes, it is primarily comparisons within countries which have to be made. Therefore the requirement is that the educational classification remains reasonably stable over time within a country, which in general seems to be a realistic assumption.

Another drawback relates to the fact that educational attainment is not necessary a good indicator of the quality of education (OECD 1994). Thus, in the US, where educational attainment at the level of secondary education is measured by time spent in formal education, wide variation can obviously be observed in pupil performance levels for a given level of educational attainment. This seems to be less of a problem for most European countries, which normally have a form of performance testing, at least at the end of secondary education.

Still, the more general critique regarding the effects of the level of aggregation in any clas-

sification on the 'observed' mismatch results, remains in full force for a classification based on educational attainment. For example, a tertiary level of educational attainment often comprises both academic and vocational degrees, and one can argue that it would be preferable to distinguish between those two fields.

Based on the preceding discussion, one can conclude that, while educational attainments cannot simply be equated to skill levels, they are the best proxy available for skills. However, a recent contribution of Manacorda and Manning (1997) puts this conclusion in an entirely different perspective.

They state that, when assessing whether there has been a shift in relative demand against the lower-skilled, it is of course necessary to take into account the changes in relative supply. That is, a shift in relative demand that is entirely offset by a comparable change in the skill composition of the labour force need not be problematic. This last situation can be called a neutral change, as opposed to an asymmetric, non-neutral or skill-biased change. Jackman et al. (1996, as quoted by Manacorda and Manning 1997) call a change neutral if the relative demand and supply changes mean that the unemployment rates for different skill groups are constant through time and the relative wages of different skill groups are constant as well.

Manacorda and Manning (1997) remark that, if the relative supply of better educated groups (education being taken as a measure of skills) increases over time, and if the unemployment rates of higher educated workers are lower, which seem to be two reasonable assumptions for most countries, this kind of 'neutral change' inevitably must lead to lower aggregate unemployment. They argue that the foregoing definition of neutral change therefore is not very sensible, and propose a rival definition, which leads to yet another measure of skill mismatch.

They 'define changes in demands and supplies for different skills (with other relevant factors constant) as neutral if the unemployment rate of the person at a given position in the skills distribution is constant and their wage relative to the average is also constant' (see p. 3-4). Now, someone's position in skill distribution is determined by his or her educational attainment, but, as the supply of educated labour grows over time, the position of a person with a given educational attainment will be falling over time: assume that educational level X corresponds to the median position at a certain point in time, half of the labour force having a higher and half having a lower level.

As the labour force becomes more educated, 10 years later, level X will have moved to the left, say to the 40th percentile, with 60% of the labour force having a higher educational level. In this framework, a neutral change implies that unemployment rates are constant for a given position in the skill distribution, but the consequence is that unemployment rates for a given educational level will be increasing over time, at least if the labour force is becoming more educated. Another consequence is that the aggregate unemployment rate will remain constant. This is, according to the authors, a more sensible assumption, because over the past century there have been dramatic increases in educational attainments without a noticeable trend in the unemployment rate.

While conceptually appealing, this definition of neutral change is much harder to operationalise empirically than the conventional definition. Whereas someone's level of education is directly observable, his/her position in the skill distribution is not directly observable, because the classification of educational levels typically consists of discrete categories. The authors assume that the level of human capital also varies within educational categories. Therefore, they have to impose some structure on the distribution of human capital within a given level of education.

A skill mismatch measure based on this framework will, in a comparison over time, compare changes in the position of skill groups, and therefore possibly lead to results which differ a lot from a more classical measure which compares changes in the position of educational groups. In Section 4.5 some

empirical results regarding the level and trends in skill mismatch are surveyed.

A last criticism which can be made of all the preceding measures of mismatch, is the fact that they conceive, or at least measure, mismatch as a one-dimensional phenomenon. Entorf (1998, p. 27) shows that, in a simple world with two regions and two skill categories and thus four possible combinations, one can easily construct examples in which a situation of perfect mismatch (all the unemployed in the first region being concentrated in the first skill category, and all vacancies in this region being in the second skill category, and the other way round for the other region) completely fades whenever one measures the mismatch along one dimension, either region or skill.

The necessity to measure mismatch as a multidimensional phenomenon is empirically comfirmed by Sneessens et al. 1997, who obtain different results for the measured level of skill mismatch, depending on whether regional mismatch has been controlled or not.

Moreover, 'even with very detailed levels of disaggregation, mismatch measurement remains subject to potential misinterpretations. Structural problems might occur due to missing mobility also within well defined sectors. Recent evidence reveals that workers tend to move within sectors, rather than across sectors [...]. Thus, the very important aspect of match and mismatch within sectors is not captured by the data, and the idea that mismatch could be reduced by moving labour across sectoral borders may be misleading.' (Entorf 1998, p. 28).

3.2.5 Relation with observed facts and policy conclusions

An increase in the level of mismatch (and skill mismatch) on the labour market will, other things being equal, lead to an outward shift of the Beveridge curve, such as the shift described in Section 2.3. Increased mismatch can thus be a sufficient condition for this shift, but is not a necessary condition: the observed shift as such does not prove that mismatch problems actually have increased.

For example, the framework developed in Section 3.1 offers a rival explanation. The hypothesis that (skill) mismatch increased, on the other hand, offers a more straightforward explanation for the apparent deterioration of the position of the lower skilled than the theory of disenfranchised unemployed. To some extent, the opposite holds for an explanation of the increased share and persistence of long-term unemployment. While this observation is perfectly compatible with increased mismatch, the disenfranchised-workers-approach is perhaps a more straight forward explanation. However, as in reality the lower skilled are typically over-represented in long-term unemployment, these two phenomena are difficult to distinguish.

As regards policy, a situation of increased skill mismatch probably will not be permanently alleviated, let alone solved, by the classical ingredients of an active labour market policy. Temporary work experience and recruitment subsidies programmes will be of little help. 'As soon as the subsidy is cancelled, the low-skilled worker will lose his job and unemployment will persist' (Sneessens 1995b, p. 19). Mandatory participation will be counterproductive, while job-search programmes will be discouraging for the lower skilled.

Several authors emphasise that only measures that aim at changing the relative cost of low-skilled workers (permanent subsidy, labour tax cut, lower social insurance contributions on the minimum and low wages, etc.) will prove effective to eliminate the skill mismatch problem (Drèze and Malinvaud 1994; Sneessens 1995b; Drèze and Sneessens 1997). This position can be defended, but it may be too pessimistic. As skill mismatch is primarily a problem of low skills which are no longer in demand (admittedly, no longer in demand at the going wage rate), obviously there has to be some scope to remedy the skills problem through training and education.

On the other hand, it is doubtful whether traditional programmes of labour market training, which either aim at upgrading lost or outdated skills and reestablishing worker attitudes, or have a rather narrow and specialised content and therefore are targeted on

864

workers who already possess a lot of qualifications, will prove sufficient. What these training programmes have in common, is their average short duration. The upgrading of the skill level of the lower-skilled, on the other hand, can only be brought about by programmes that are sufficiently long.

3.3 Job competition

The skill mismatch-hypothesis and the theory of unemployment persistence due to the disenfranchising effects of long-term unemployment can both explain the stylised facts outlined in Section 2.3. Which theory is more in line with reality, is largely an empirical matter. An empirical judgement however, will not prove easy, among other things because, even on a theoretical level, there is not really a consensus as to how mismatch should be defined, let alone measured. Yet, as already mentioned earlier, an examination of the behaviour of the exit rates from unemployment could possibly give an indication of which theory is dominant for a given country. That is to say, if for a particular country one observes that negative duration dependence is absent or negligible, this will be a strong indication for downplaying the role of the disenfranchised workers hypothesis. If, on the other hand, one observes negative duration dependence, both hypotheses become possible (or a mixture of them). The criterion of the duration dependence thus is at best a half-hearted judgement.

And even a situation of pure heterogeneity (where duration dependence is absent) will not prove that mismatch is to be the preferred explanation. As pointed out by Cockx (1998), a job competition hypothesis could equally well be responsible for high heterogeneity in exit rates. Job competition (ladder-effect, displacement-effect, bumping) occurs in a context of high unemployment. The higher skilled can always fill the vacancies which initially were intended for lower skilled. Therefore, a cyclical downturn with an increase in unemployment will hit the lower skilled much harder than the higher skilled, because the latter can always descend the skills-ladder, while the former soon reach the bottom. However, with an upswing of economic activity and a tightening of the labour market, the position of the lower skilled should improve again, at least, if job competition is the only mechanism in operation.

Job competition, in other words, can not explain unemployment persistence and therefore is, at best, a secondary explanation. This does not mean that job competition has to be excluded from the recent unemployment history of some countries. It is quite possible that it has substantially aggravated the position of the lower skilled, on top of the already devastating (joint) effect of skill mismatch and/or persistent long-term unemployment. It cannot be attributed a role of protagonist, either in explaining unemployment growth or in explaining unemployment persistence.

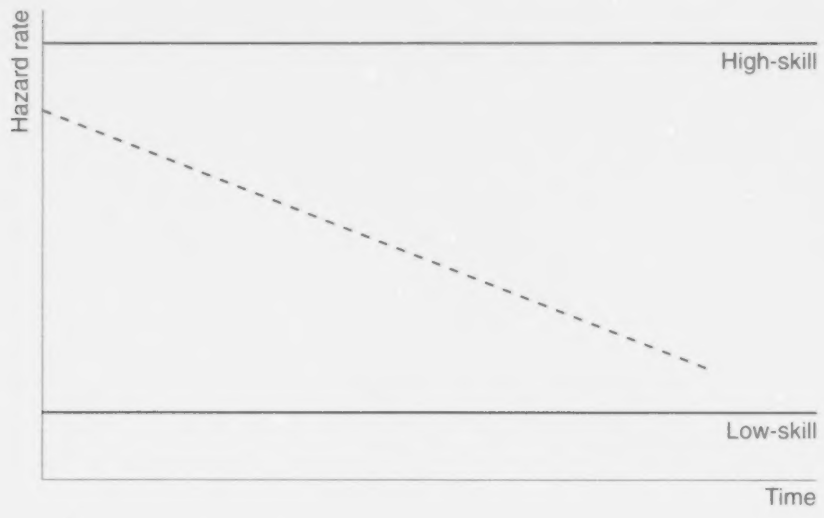
4. Corroborating evidence

4.1 State dependence versus heterogeneity

4.1.1 Introduction

In an empirical attempt to model the effect of unemployment duration on the exit probability, the basic variable is unemployment duration. Duration data are typically analysed with a specially adapted statistical tool, so-called hazard models ('event history models', 'duration models', 'survival analysis'). In conventional statistical approaches, such as OLS regression, the omission of a relevant independent variable will bias the estimators of coefficients that are included only if the omitted variable correlates with the included variable (a typical example being the regression of income on years of schooling, omitting a measure of ability). In hazard models, this bias will be present even if omitted variables are not correlated with included variables. More disturbing yet, the omission of relevant variables will lead to the impression that the hazard rate out of unemployment is characterised by negative duration dependence, even if the hazard rate is constant. This is due to a sorting out process. The intuition behind this result can be shown with the following simple example. Suppose that there are two groups of people in unemployment, say the

Figure 4: Spurious duration dependence



low-skilled and the high-skilled. Suppose further that the high-skilled at each point in time have a high and constant probability of leaving unemployment, while the low-skilled also have a constant hazard rate, which however, as opposed to the high-skilled, is low. Figure 4 gives the hazard lines for both groups.

Now, if a student of this group of unemployed for one reason or another is not able to identify who belongs to the high-skill group and who belongs to the low-skill group, he will observe the dotted line, which suggests that hazard rates are decreasing. This can be explained as follows: at the beginning (inflow into unemployment), the population consists of both high-skilled and low-skilled unemployed. However, since the high-skilled have a high propensity to leave, as time goes by, i.e. if we move to the right, the share of high-skilled still left in unemployment will steadily decline. The share of low-skilled unemployed therefore will increase. The share of persons with high exit rates will decrease, and in the end only persons with low exit rates will be left. Without information with respect to skill, one will therefore, wrongfully, be inclined to infer that hazard rates are declining, i.e. that there is negative duration dependence. This is called spurious duration dependence, due to unobserved heterogeneity.

The crux of this argument is that in hazard models it is extremely important to model heterogeneity. Characteristics such as age, gender, educational attainment, work experience, ethnicity, etc., which have an important impact on the probability of leaving unemployment, will often be available and therefore can be included. However, other characteristics such as motivation, temperament, appearance, clothing, demeanour, or even certain aspects of acquired skills (command of language, literacy skills) will, more often than not, not be available for research and yet could exert a great influence on the exit rate from unemployment.

One has to admit that in more recent applications, attempts have been made to model unobserved heterogeneity (going from rather mechanical 'ad hoc' procedures to more advanced approaches which impose less 'difficult to justify' structure on data (Chamberlain 1985; Lancaster 1990)). Therefore, one should primarily be sceptical about first gen-

866

eration studies that demonstrate negative duration dependence.

4.1.2 Survey of some empirical results

The economic analysis of unemployment duration is based on job search theory (Devine and Kiefer 1991, 1993). A basic job search model predicts that hazard rates out of unemployment will be constant. After all, if an unemployed person finds out that obtaining a job is more difficult than expected, and the duration of the unemployment spell therefore longer than expected, he/she can always reduce his/her demands (be it by lowering the reservation wage, or by accepting job offers which he/she up to then did not consider). On the other hand, it can be argued that the prevailing systems of unemployment compensation interfere with this simple reasoning.

It is often asserted that unemployment benefit levels, replacement rates, the duration of entitlement to unemployment benefits and other aspects of unemployment compensation policies have an important impact on the probability of exit from unemployment. However, in a comprehensive survey of literature, Atkinson and Micklewright conclude that 'on the empirical side, we have found that, despite the large literature, there is relatively little evidence concerning several potentially important effects of unemployment compensation on labor market transitions' (Atkinson and Micklewright 1991, p. 1721).

More recent research confirms this conclusion to some extent. Several authors find no effects (Groot and Jehoel-Gijsbers 1992, Netherlands; Hernaes and Strom 1996, Norway; Wadsworth 1992, UK; Schmitt and Wadsworth 1993, UK; Gorter and Gorter 1993, Netherlands;), while others find small and sometimes more important effects (Stancanelli 1996, UK; Jensen and Verner 1996, Denmark; Lubyova and Van Ours 1997, Slovak Republic; Winter-Ebmer 1998, Austria; Ahn and Ugidos-Olazabal 1995, Spain; Lilja 1993, Finland). The overall picture therefore is quite blurry, although this reflects to a certain degree the huge differences between the unemployment compensation policies of different European countries.

As to the empirical standing of state dependence versus heterogeneity, Meager and Evans (1998) give a useful overview:

'Early US research with panel data, particularly on young people, suggested that an explanation rooted in heterogeneity had more explanatory power [Ellwood 1982, Chamberlain 1985, Lynch 1985]. European research yielded somewhat different results initially, however. Thus youth unemployment studies in the UK [Lynch 1989, Narendranathan and Elias 1993] indicated a role for both factors, [...]. Further UK studies, [Jackman and Layard 1991, Narendranathan and Stewart 1989, Layard et al. 1991] however, indicated evidence of state dependence, with the probability of a spell of unemployment ending being negatively related to the duration of that spell (after allowing for heterogeneity, both observed and unobserved). Recently, however, the balance of evidence has shifted again. Research in the UK quoted in Elias (1996), as well as that of Portugal and Addison (1995) and van den Berg and van Ours (1996) for the US, and van den Berg and van Ours (1994) for France, the Netherlands and the UK, suggest a limited role for state dependence, and that most variation in observed durations of unemployment can be explained by heterogeneity [...].' (Meager and Evans 1998, p.14.).

A few qualifications: van den Berg and van Ours (1994) find little support for state dependence, however, with one remarkable exception: for British male unemployed they find strong genuine negative duration dependence and little empirical evidence that heterogeneity counts for this group. Similarly, van den Berg and van Ours (1996) report for US white males negative duration dependence which dominates heterogeneity.

Korpi (1995) starts from the observation that earlier Swedish studies have repeatedly reported non-negative or constant duration dependence in the hazard. The author attributes this result to the (then actually) large scale of the labour market programmes, which typically focused on the unemployed with the worst employment prospects. Dejemeppe and Cockx (1998b) find for Wallonia (Belgium)

important heterogeneity effects, and a limited role for negative duration dependence.

The bottom line of this review seems to be that, given the present state of the art, the evidence points increasingly towards heterogeneity at the expense of duration dependence. The US and the UK, however, at least for males, are clearly exceptions to this general observation.

4.2 The impact of unemployment on psychological wellbeing

The impact of unemployment on psychological wellbeing has been profoundly studied and documented by social psychologists. Early work started back in the 1930s with the now classical *Die Arbeitslosen von Marienthal*, published in 1933 by Jahoda, Lazarsfeld and Zeisl. In the recent past, a lot of research attention has been devoted to the problem, both on theoretical and empirical levels (Jahoda 1982, Hayes and Nuttman 1981, Ellwood 1982, Kelvin and Jarett 1985, O'Brien 1986, Schaufeli 1988, Banks and Ullah 1988, Catalano and Dooley 1988, Furnham 1988, Fryer 1992, Gershuny 1993, Winefield et al. 1993, Leana and Feldman 1994, Burnett 1994, Whelan 1994, Cazals et al. 1995, Hovland et al. 1996, Underlid 1996, Smari et al. 1997, Winefield 1997, Wanberg et al. 1997, Taris 1998, Theodossiou 1998).

De Witte (1993) offers a comprehensive survey of empirical studies, in particular with respect to long-term unemployment. McFadyen and Thomas (1997) make a useful comparison between the psychological approach and the economic models of job search.

Longitudinal studies in several countries have shown that becoming unemployed often goes hand in hand with a significant deterioration of psychological health (De Witte 1993). Goldsmith and Darity (1992) cite a study that linked unemployment to significantly higher levels of anxiety, depression, somatisation, hostility and paranoia. Besides the impact on psychological health, physiological changes have also been reported (Baum et al. 1986 give some references).

Feather (1990) reviews a wide panoply of possible theoretical explanations for this observed reduction of psychological health. One approach, developed by Jahoda, starts from the functions of paid employment (Jahoda 1982). Apart from manifest functions, such as earning a wage, employment is thought to have several latent functions: imposition of a time structure, provision of social contacts, involvement in shared goals, assignment of status and identity, and enforcement of activity. The loss of a job will quite possibly involve a deprivation of both the manifest and the latent functions, which then is linked to psychological wellbeing.

Another, not necessarily conflicting explanation is that becoming unemployed is either initially perceived as uncontrollable, e.g. when due to a layoff, or over time becomes perceived as uncontrollable, e.g. due to a prolonged but fruitless search. This loss of control 'reduces an individual's perception of internal locus of control, presumably leading to a sense of helplessness' (Darity and Goldsmith, 1993, p. 60). 'Helplessness theory' can be summarised as follows: 'highly desired outcomes are believed improbable [...] and the individual expects that no response in his repertoire will change their likelihood' (Abramson et al. 1978, as quoted by Feather 1990, p. 71). However, not all authors agree that loss of control immediately leads to helplessness. Wortham and Brehm (1975) state that the first response of an individual to a loss of control is one of 'reactance', i.e. trying to reestablish control. As soon as it becomes apparent that this can not be successful, helplessness emerges.

Now, as stated by De Witte (1993), the deterioration of psychological health typically will stabilise after a certain period of time. The stabilisation of psychological wellbeing, albeit on a lower level, is explained by an adaptation process: the long-term unemployed adapt to their new role and withdraw from the labour market by lowering their employment commitment and their job search.

Thus, the line of reasoning is as follows: upon becoming unemployed, the unemployed persons experience a serious deterioration of

their psychological wellbeing, e.g. due to a deprivation of manifest and latent functions and/or due to a sense of helplessness. This results in a high level of stress, possibly cumulating, if it becomes clear that the probability of finding another job is small. These unemployed therefore will become discouraged and demotivated. However, high stress levels are not sustainable for long periods of time. Therefore, as the unemployment spells becomes longer, in an attempt to reduce cognitive dissonance, the unemployed will adapt to the new situation, by changing their preferences. The long-term unemployed thus will withdraw from the labour market and lower their employment commitment. Job search will be substantially reduced. Psychological health settles on a stable albeit lower level.

In the event that a long-term unemployed does find a job, according to De Witte (1993) this will lead to a substantial and instantaneous improvement in psychological wellbeing, possibly even to a restoration of the status quo ante. Darity and Goldsmith (1993) confirm that a myriad of studies find improved psychological wellbeing upon reemployment. However, they question whether this necessarily means that all adverse effects of unemployment are transitory and are readily offset by reemployment. They cite some studies that reported adverse psychological effects of unemployment that were not fully offset immediately by the emotional improvement due to reemployment. They conclude that 'it is evident that there is at least an extended interval where motivation and performance are likely to be reduced relative to the baseline even after reemployment' (see p. 61).

However, this last observation could be related to the fact that the long-term unemployed sometimes accept jobs that do not fully utilise their skills, which could account for some residual helplessness, since it is reported that 'satisfactory employment, relative to dissatisfied employment, increases self-esteem and decreases depressive effect to a greater extent' (see p. 61). De Witte (1993) also mentions that it has been reported repeatedly that long-term unemployed, when finding another job, often sacrifice on wage, status and work conditions in comparison with their previous job (which of course can be explained by the lowering of their reservation wage). Whether this sacrifice itself affects the restoration of psychological wellbeing or not, however, is not mentioned by the last author.

On balance, and acknowledging that this short and selective overview does no justice to what has become a discipline in its own right, one can conclude that the empirical evidence collected during the past 20 years by students on the psychological impact of unemployment, does sustain the hypothesis that long-term unemployment is characterised by negative duration dependence[4]. The key observation is that long-term unemployed will tend to lower their employment commitment and will reduce their job search activity.

This last observation, however, is not entirely confirmed in non-social-psychology literature. Layard et al. (1991) review several job search surveys (US and UK), and conclude that, while unemployment duration does not seem to affect the time spent searching (hours per week), it does seem to affect the effectiveness of searching (less active methods, such as direct contacts with employers, as duration increases). However, they conclude that search activity only declines to a rather small extent with duration.

4.3 Loss and obsolescence of skills

The discrepancy between the number of authors who support the idea of loss and obsolescence of skills during protracted spells of unemployment and the number of studies that really give empirical evidence is enormous.

[4] Although not directly related to this section, it is noteworthy that occupational skills training programmes for the unemployed are reported to have had a beneficial effect on the psychological distress of participants, by improvements in self-esteem, life satisfaction, and reductions in levels of depression (Creed et al. 1996, who also give some useful references). It is, however, not reported whether these beneficial effects were durable or not.

Basically, three mechanisms can be distinguished that relate unemployment to the retention and acquisition of skills:

a) unemployment may lead to a loss or erosion of acquired skills, primarily because they are no longer practiced due to being out of work;

b) unemployment may lead to an obsolescence of acquired skills;

c) unemployment may reduce (temporarily or permanently) the individual's potential to learn and acquire new skills;

Loss of skills

Some broad indications can be obtained from the International Adult Literacy Survey (IALS)-study (OECD 1997), which measured the literacy skills of adults in several OECD countries. A broad concept of literacy skills was used. Unsurprisingly, the literacy skills correlate with educational attainment. However, one consistently observed that literacy skills correlated with the labour force status of a respondent. Thus the unemployed score lower on literacy skills than working people. Obviously, to draw conclusions, one should check on educational attainment, but such exercises have not yet been reported. Moreover, since the IALS results are based on cross-sections of the population, one can never be sure about the direction of causality: do the responding unemployed in the sample score lower on literacy due to their being unemployed, or are they unemployed because they possess less literacy skills in the first place?

Obsolescence of skills

From the alleged great and increasing importance of on-the-job training and non-formal learning, coupled with the observation that employed persons participate more in training and education, one can infer that unemployment, while not necessarily bringing about an absolute decrease in acquired skills, will tend to widen the relative skill gap compared to those remaining in employment.

Acquisition of skills

Social psychology literature also gives some insights into the acquisition of new skills. Helplessness, so the theory goes, may reduce the motivation to acquire new skills, and possibly also diminish cognitive efficiency so that the unemployed may find it more difficult to learn new skills, even if they are motivated. Helpless people are for instance reported not to memory scan as rapidly as someone who is not helpless[5] (Darity and Goldsmith 1993). Fleming et al. (1984) report that, in a laboratory setting, a control group of employed persons solved significantly more problems than the group of unemployed. Moreover, the stress levels of the unemployed rose during the task. Baum et al. (1986) compared persons who had recently entered unemployment with persons who were unemployed for between three to five months. They found that the longer-term unemployed persisted less on very difficult tasks requiring both persistence and concentration, and also solved less tasks. It is, however, not reported whether cognitive efficiency and motivation are restored upon reemployment. The results do suggest that training programmes for the unemployed could benefit from psychological support.

4.4 Employer behaviour

Employers may use unemployment duration as a signal for productivity, and thus rank candidates rather indiscriminately by their unemployment duration. In that case long-term unemployment leads to a loss of reputation and stigmatisation. Empirical evidence about such behaviour can be obtained from employer surveys. Meager and Evans (1998) give an overview of several studies which all confirm that a significant share of employers do take account, when recruiting, of unemployment duration: Atkinson et al. 1996, Colbjornsen et al. 1992, ESRI 1991, Gazier and Silvera 1993, Meager and Metcalf 1987, Ronayne and Creedon 1993. This list covers the UK, Norway, Ireland and France.

[5] Memory scanning is searching the memory for appropriate information.

870

These results are confirmed for Flanders (Belgium) in Lamberts (1993), and for Austria by Winter-Ebmer (1991). It can be concluded that this kind of behaviour is quite consistently present in a lot of countries, which is an important indicator for supporting the presence of state dependence.

From a policy point of view, it is important whether discriminating behaviour is based on an objective evaluation by employers on the basis of previous experiences (e.g. because loss of skill, loss of worker attitudes, etc. really are prevalent), or on a more subjective, to some extent prejudiced, appraisal of the employability of 'the long-term unemployed' in general. If the latter case is more common, information campaigns and programmes to promote the employment of long-term unemployed to unmask received wisdom might remedy the problem. If the former is more common, a quite different approach is called for, e.g. policies to remedy loss of skills, work attitudes and the like.

4.5 Mismatch

An empirical evaluation of the importance of, and the trends in skill mismatch has been made by different authors, using different measures, based on sometimes substantially different theoretical underpinnings. Unsurprisingly, the resulting picture is most varied.

Layard, Nickell and Jackman (1991) (and subsequent work), using a measure based on relative unemployment rates, observe substantial mismatch in a variety of countries (occupational, sectoral, industrial and age mismatch), but do not detect a trend evolution. Mismatch therefore is important, they assess that the combined sources of mismatch can be held responsible for raising Britain's unemployment by some 40 % above what it would have been otherwise, but the particular unemployment evolution of the past decades cannot be attributed to an increased mismatch. In their view, other forces were at work. Bean and Pissarides (1991), using a comparable measure, do not find compelling evidence for technology-induced skill mismatch in Britain.

Sneessens and Shadman-Metha (1995) and Sneessens (1995), using differences between unemployment rates, observe a significant increase in skill mismatch for France in recent decades. Sneessens et al. (1997) state that most of the increase in structural unemployment in France is related to skill mismatch, while increases in structural unemployment (skill and regional mismatches) are capable of explaining 75% of the increase in actual unemployment, at least until 1990.

For Spain, the picture is more complex. The increase in structural unemployment only represents 55 to 60% of actual unemployment changes, the remainder relating to a movement along the Beveridge curve (instead of a shift).

Franz (1991), working with both unemployment and vacancy figures for Germany, does detect some regional and skill mismatches, but states that it is less obvious whether these imbalances have increased.

Manacorda and Manning (1997), measuring skill mismatch based on their concept of the skill distribution, find evidence for an increased skill mismatch in the US and the UK, but find no increase for France, the Netherlands, Germany and Italy.

Entorf (1998) uses highly disaggregated data for Germany. Using panel-econometrics on a panel of 40 occupational groups for the period 1971 to 1992, he obtains that the matching efficiency is declining over time. However, matching efficiency seems to vary with the prevailing economic situation. Thus periods of easy match are typically times of high unemployment (1975/76 and 1983/84), and therefore he concludes that high unemployment is accompanied by lower mismatch. Moreover, the general level of mismatch is higher in the 1980s than in the 1970s.

After this overview, one may have the feeling that research results are rather inconsistent and therefore not very conclusive. However, although there is not a clear picture of the evolution of mismatch over time, most authors find, irrespective of the approach they use, that the level of mismatch is not negligible, and

sometimes even substantial. This observation warrants a policy interest in mismatch problems. Whether a policy oriented towards reducing mismatch problems will be enough, or whether it has to be supplemented by policies aimed at other malfunctionings of the labour market, depends on whether there has been an unfavourable trend in mismatch or not.

At present this last question cannot be answered unambiguously. Much more work is needed, both at theoretical level, to obtain a better theoretical underpinning of the mismatch concept (which possibly will lead to some convergence in the now widely different approaches), and at empirical level, to establish richer data with consistent time series and preferably, at a more disaggregated and multidimensional level.

As regards this last aspect, the last Holy Grail of labour economics, LEE (linked employer-employee data) (Hamermesh 1999), which consists of linking household data with establisment/firm data, looks promising.

4.6 Conclusion

On balance, the evidence is quite mixed. Some observations (e.g. the fact that genuine duration dependence appears to be negligible in a lot of countries; see Section 4.1.2 for France, the Netherlands, United Kingdom and Wallonia), are a strong argument against the theory of unemployment persistence due to the disenfranchising effects of long-term unemployment. Other elements, in particular the well documented observation regarding recruitment behaviour, as well as vast theoretical and empirical literature regarding the effects of (long-term) unemployment on wellbeing and job search behaviour, corroborate this theory. The demonstration of an increase in (skill) mismatch over time, on the other hand, has been notoriously difficult, due to measurement problems and the absence of suitable data, and also due to lack of consensus among its students. To decide that an increase in skill mismatch problems is not relevant because such an increase has not yet been demonstrated convincingly, is possibly too hasty.

Therefore, a conclusion could be that a mixture of both explanations has been, and still is, responsible for the particular unemployment problems encountered by European countries. This, however, does not preclude that different countries struggle with a different mix, some having predominantly a skill mismatch problem, while others are more obstructed by the burden of long-term unemployment.

In this contribution, is was asserted that the policy mix necessary to tackle and remedy a situation of skill mismatch is potentially quite different from active labour market policies that aim at the activation of the unemployed and prevention of long-term unemployment. While some countries or even particular regions within countries predominantly have a mismatch problem, other countries or regions seem to have less of a problem, so a differentiated policy approach is called for.

While this may sound logical, the actual policy approach recommended by the EU through its guidelines starts from the premise that European unemployment can be alleviated by a uniform and common set of policies for all countries. The two first guidelines are directed at the prevention of long-term unemployment. While the prevention of long-term unemployment may be a goal in its own right, e.g. for social and political reasons, the economic rationale for preventive policies, namely the claim that unemployment duration itself has a clear negative impact on employability, is questioned by a growing number of empirical results.

The massive deployment of labour market programmes that seek to intervene in the early stages of an individual's unemployment spell, e.g. training for the unemployed which has an important share, can thus be questioned on two grounds.

In the first place, dead-weight effects can be taken to be substantial, since early intervention will direct scarce resources towards the unemployed who would leave unemployment early anyway.

Second, for those unemployed really at risk of becoming long-term unemployed, early in-

872

tervention could be warranted provided it were possible to identify who is at risk and who is not (literature is rather pessimistic on the possibility of early identification). However, even if the unemployed at risk would benefit from current early interventionist programmes if they were targeted exclusively at the groups at risk – which is questionable since existing measures either lack enough depth to remedy their problems fundamentally (e.g. short training courses), or only have a temporary nature (e.g. temporary wage subsidies) – it stands to reason that the unemployed at risk will not benefit much when all the unemployed are targeted.

As regards the problems encoutered when measuring mismatch phenomena, the absence of suitable and internationally comparable vacancy data has been one of the main obstacles. It could be argued that here remains a challenge for the EU statistical authorities.

5. Summary

5.1 Introduction

There is undeniably a relationship between skills and unemployment. In comparison with better-educated workers, the unemployment rates for workers with low educational attainment, are, almost without exception, consistently higher throughout the EU. This is not a new phenomenon. However, it has been suggested that during past decades the relative labour market position of the low-skilled has declined markedly, due to a variety of factors. Some authors attribute a substantial part of the explanation of recent European unemployment history to this relative demand shift against the low-skilled. A general increase in skill mismatch is, in their view, one of the main causes of the peculiar persistence that has characterised European unemployment in the past 20 years.

This view, however, has not gone unchallenged. Others have argued that this persistence is caused by other factors, such as long-term unemployment and everything this brings about.

From a policy point of view, it is important to know which view is most in line with reality. Depending on the chosen theory, policy prescriptions differ. More in particular, there are some implications for the organisation of a VET policy to alleviate unemployment problems.

In this contribution, a comparison is made of the two rival views. Although both theories originally stem from a macroeconomic perspective, i.e. a highly stylised and aggregated world, and essentially deal with macro phenomena, most attention will be devoted to their microeconomic underpinning and the available empirical evidence on this level.

5.2 Some stylised facts

- Over time, unemployment rates have grown, sometimes dramatically;
- unemployment appears to have a persistent nature, i.e. once the unemployment rate has gone up, e.g. in a period of a cyclical downturn, it has a tendency to remain on this higher level, i.e. it does not return to its initial equilibrium level, even when the business cycle becomes more favourable;
- typically, unemployment rates are higher for lower-skilled than for higher-skilled workers, even though the share of the lower skilled in the labour force is decreasing over time;
- the incidence of the long-term unemployment (more than one year) is on a historically unprecedented high level. Moreover, it is typically the lower-skilled workers who are hit most by long-term unemployment;
- high unemployment rates sometimes go hand in hand with high vacancy rates.

5.3 Theoretical background

5.3.1 A first theory: equilibrium unemployment, persistence, hysteresis and state dependence

By introducing hysteresis, one incorporates the empirical observation of the 1980s that, once

unemployment has risen, it has a tendency to remain on this higher level, so that today's equilibrium unemployment level depends partly on past unemployment. Several possible explanations for the emergence of persistent unemployment have been given. We have principally discussed the 'outsider characteristics' explanation. The underlying mechanism is as follows. An increase in actual unemployment rates leads to an increase in long-term unemployment. For reasons which have been elaborated in section 3.1.2, long-term unemployment is thought to lead to a distance between the long-term unemployed and the labour market, in fact rendering them unemployable. Therefore, they no longer exert downward pressure on wages.

How can long-term unemployment lead to persistence? The basic idea is that the length of stay in unemployment, i.e. the duration has an impact on the exit probability, over and above the impact of individual characteristics, such as age, gender, educational attainment, work experience, ethnicity etc. Negative duration dependence (which is present if the exit rates from unemployment decrease, the longer one is unemployed) implies that something happens or changes during the stay in unemployment, either because the unemployed themselves change, or because they are perceived to have changed. The following processes have been suggested:

- the fact of being unemployed, especially for persons that find it hard to find another job, can trigger off a process of discouragement and demotivation, which eventually can lead to habituation and resignation. This will probably lead to a reduction of the job search activity, and hence to a reduction of the exit probability;

- being in unemployment, particularly long-term unemployment, can lead to a loss or an erosion of acquired skills. Moreover, even if there is no loss, still the once acquired skills and knowledge can quickly become obsolete and outdated when no longer used and updated. If erosion and depreciation of skills take place over an unemployment spell, there is a direct effect on one's employability, and hence on the exit probability;

- unemployment, and more particularly long-term unemployment, is said to affect work attitudes and work discipline, which, indirectly, can be of influence if potential employers come to associate long-term unemployment with loss of work attitudes;

- this last mechanism can be generalised as a loss of reputation argument. Given that a hiring process is a situation with asymmetrical information, where the potential employer normally has only limited and incomplete information about the productivity of a potential employee, employers may use the unemployment duration as a signal of productivity, and thus rank candidates by their unemployment duration. If this mechanism acts, the exit rate obviously will decrease with duration.

Two of the most singular stylised facts from Section 2, namely persistent unemployment and the apparently shifted Beveridge curve (simultaneously more unemployment and more vacancies), can be readily explained with the former theory. A rise in unemployment due to a succession of severe negative shocks leads to long-term unemployment. The long-term unemployed become disenfranchised from the labour market, which, through the mechanism(s) described above, leads to persistence. As the long-term unemployed become unemployable, the number of effective unemployed will be lower than the total number of unemployed, and therefore, a higher unemployment rate will be compatible with a given vacancy rate.

In past decades, there was an emergence and tremendous growth of long-term unemployment. The policy implications thus centre on the prevention of long-term unemployment and activation of the (long-term) unemployed. If long-term unemployment leads to discouragement and habituation, loss of skills and worker attitudes, it is important to act preventively by creating e.g. temporary work experience and recruitment subsidies programmes to prevent the disenfranchising processes. The long-term unemployed can be reactivated by training programmes that upgrade lost or outdated skills and reestablish

worker attitudes. Mandatory participation can be a solution for problems of habituation, while job-search programmes can be a remedy for discouragement. These are the main ingredients of what has come to be known as active labour market policy.

5.3.2 A rival theory: structural unemployment and skill mismatch

This line of reasoning builds on the observation that over time, there has been a dramatic deterioration in the position of low-skilled members of the labour force. In Europe, the shift in demand against the low-skilled reveals itself in growing unemployment differentials between the higher and lower skilled workers. In the US labour market on the other hand, where wage rigidity is lower, the demand shift manifests itself through a substantial decline in the relative wages of the lower skilled, generating an increase in wage inequality. Over time the qualification level of the population increases. The shift in demand against the low-skilled, however, is not counterbalanced by this analogous shift in the skill composition of labour supply. Given the downward rigid wages, the low-skilled get struck in unemployment, and become long-term unemployed. Long-term unemployment persists because those unemployed do not possess the skills demanded by the labour market, and not, or not necessarily, because they become disenfranchised. In other words, this view does not demand negative duration dependence in exit rates from unemployment, and can be compatible with pure heterogeneity.

The demand shift against the low-skilled, together with the relative wage rigidity, has been designated by several authors as an explanation for the persistence of high unemployment in Europe. It is in this context that the notion 'skill mismatch' is introduced. Loosely speaking, skill mismatch is a mismatch between the skill composition of labour demand and supply.

To explain the shift in demand against the low-skilled, the three following explanations are put forward:

a) skill-biased technological change: the introduction of new technologies leads to an increase in the demand for more highly-skilled labour, at the expense of the low-skilled;

b) 'deindustrialisation': the structural shift from employment in industrial sectors to the services sectors;

c) increased competition from low-wage countries abundant in low-skilled, low-paid labour. This can be interpreted as an increased implicit supply of less educated workers.

Most authors give the highest weight to the skill biased technological change argument, while the trade and the deindustrialisation effects seem to have had a minor contribution. However, even the role of SBTC has not been unchallenged, and the empirical evidence remains fairly limited and circumstantial.

The measurement of mismatch is concerned with measuring the level and trends in mismatch. Several rival measures have been proposed. A first series of empirical measures use data on unemployment and vacancies. Though intuitively appealing, the practical application of these measures has been limited because few countries have suitable vacancy data. Therefore, some mismatch measures have been proposed which only use information about unemployment (measurement problems and rival measures are discussed in the report).

How does this framework fit the stylised facts? An increase in the level of mismatch (and skill mismatch) on the labour market will, other things being equal, lead to an outward shift of the Beveridge curve. Increased mismatch can be a sufficient condition for this shift, but is not a necessary condition. For example, the framework developed in Section 3.1 offers a rival explanation. The hypothesis that (skill) mismatch increased, offers a more straightforward explanation for the apparent deterioration of the position of the lower skilled than the theory of disenfranchised unemployed.

As regards policy, a situation of increased

skill mismatch will probably not be permanently alleviated, let alone solved, by the classical ingredients of an active labour market policy. Temporary work experience programmes and recruitment subsidies programmes will be of little help. As soon as the subsidy is cancelled, the low-skilled worker will lose his/her job and unemployment will persist. Mandatory participation will be counterproductive, while job-search programmes will be discouraging for the lower skilled. Several authors emphasise that only measures aimed at changing the relative cost of low-skilled workers (permanent subsidy, labour tax cut, lower social insurance contributions on the minimum and low wages, etc.) will prove effective. This position can be defended, but it may be too pessimistic. As skill mismatch is primarily a problem of low skills no longer required (admittedly, no longer required at the going wage rate), obviously there has to be some scope to remedy the skills problem through training and education. On the other hand, it is doubtful whether traditional programmes of labour market training, which either aim at upgrading lost or outdated skills and re-establishing worker attitudes, or have a rather narrow and specialised content and therefore are targeted at workers who already possess a lot of qualifications, will prove sufficient.

5.3.3 Job competition

The skill mismatch hypothesis and the theory of unemployment persistence due to disenfranchising effects of long-term unemployment can both explain the stylised facts from Section 2.3. Which theory is more in line with reality, is largely an empirical matter. An empirical judgement however, will not prove easy, among other things because, even at a theoretical level, there is not really a consensus as to how mismatch should be defined, let alone be measured. Yet, as already mentioned earlier, an examination of the behaviour of the exit rates from unemployment could possibly give an indication of which theory is dominant for a given country. That is to say, if for a particular country one observes that negative duration dependence is absent or negligible, this will be a strong indication for downplaying the role of the disenfranchised workers hypothesis. If on the other hand, one observes negative duration dependence, both hypotheses become possible (or a mixture of them). The criterion of duration dependence is thus at best a half-hearted judgement.

And even a situation of pure heterogeneity will not prove that mismatch is the preferred explanation. A job competition hypothesis, where higher skilled fill vacancies which initially were intended for lower skilled, could equally well be responsible for high heterogeneity in exit rates. However, with an upswing of economic activity, and a tightening of the labour market, the position of the lower skilled should improve again, at least, if job competition is the only mechanism operating. Job competition, in other words, can not explain unemployment persistence and therefore is, at best, a secondary explanation.

5.4 Corroborating evidence

State dependence versus heterogeneity

The bottom line of a review of recent research seems to be that, given the present state of the art, the evidence points increasingly towards heterogeneity at the expense of duration dependence. The US and the UK, however, at least for males, are clearly exceptions to this general observation.

Discouragement and habituation

On balance one can conclude that the empirical evidence collected during the past 20 years by students on the psychological impact of unemployment, does sustain the hypothesis that long-term unemployment is characterised by negative duration dependence.

Loss and obsolescence of skills

The discrepancy between the number of authors who support the idea of loss and obsolescence of skills during protracted spells of unemployment and the number of studies that really give empirical evidence is enormous. The few references found seem to support the claim.

Employer behaviour

From a survey of literature it can be concluded that a significant share of employers do take account, when recruiting, of unemployment duration. This kind of behaviour is quite consistently present in a lot of countries, which is an important indicator for supporting the presence of state dependence. From a policy point of view, it is important whether discriminating behaviour is based on an objective evaluation by employers on the basis of previous experiences (e.g. because loss of skill, loss of worker attitudes, etc. really are prevalent), or on a more subjective, to some extent prejudiced, appraisal of the employability of 'the long-term unemployed' in general. If the latter case is more common, information campaigns and programmes to promote the employment of long-term unemployed to unmask received wisdom might remedy the problem. If the former is more common, a quite different approach is called for.

Mismatch

An empirical evaluation of the importance of and the trends in skill mismatch has been made by different authors, using different measures, based on sometimes substantially different theoretical underpinnings.

Unsurprisingly, the resulting picture is most varied. The overview (in the report), may give the feeling that research results are rather inconsistent and therefore not very conclusive. However, although there is not a clear picture of the evolution of mismatch over time, most authors find, irrespective of the approach they use, that the level of mismatch is not negligible, and sometimes even substantial.

This observation warrants a policy interest in mismatch problems. Whether a policy oriented towards reducing mismatch problems will be enough, or whether it has to be supplemented by policies aimed at other malfunctionings of the labour market, depends on whether there has been an unfavourable trend in mismatch or not.

At present this last question cannot be answered unambiguously. Much more work is needed, both at theoretical level, to obtain a better theoretical underpinning of the mismatch concept (which possibly will lead to some convergence in the now widely different approaches), and at empirical level, to establish richer data with consistent time series and preferably, at a more disaggregated level.

5.5 Conclusion

On balance, the evidence is quite mixed. Some observations (e.g. the fact that genuine duration dependence appears to be negligible in a lot of countries), are a strong argument against the theory of unemployment persistence due to the disenfranchising effects of long-term unemployment. Other elements, in particular the well documented observation regarding recruitment behaviour, as well as vast theoretical and empirical literature regarding the effects of (long-term) unemployment on wellbeing and job search behaviour, corroborate this theory.

The demonstration of an increase in (skill) mismatch over time has been notoriously difficult, due to measurement problems and the absence of suitable data, and also due to lack of consensus among its students. To decide that an increase in skill mismatch problems is not relevant because such an increase has not yet been demonstrated convincingly, is possibly too hasty.

Therefore, a conclusion could be that a mixture of both explanations has been, and still is, responsible for the particular unemployment problems encountered by European countries. This, however, does not preclude that different countries struggle with a different mix, some having predominantly a skill mismatch problem, while others are more obstructed by the burden of long-term unemployment.

In this contribution, is was asserted that the policy mix necessary to tackle and remedy a situation of skill mismatch is potentially quite different from active labour market policies that aim at the activation of the unemployed and prevention of long-term unemployment.

While some countries, or even particular regions within countries predominantly have a mismatch problem, other countries or regions seem to have less of a problem, so a differentiated policy approach is called for.

While this may sound logical, the actual policy approach recommended by the EU through its guidelines starts from the premise that European unemployment can be alleviated by a uniform and common set of policies for all countries. The two first guidelines are directed at the prevention of long-term unemployment. While the prevention of long-term unemployment may be a goal in its own right, e.g. for social and political reasons, the economic rationale for preventive policies, namely the claim that unemployment duration itself has a clear negative impact on employability, is questioned by a growing number of empirical results.

The massive deployment of labour market programmes that seek to intervene in the early stages of an individual's unemployment spell, e.g. training for the unemployed which has an important share, can thus be questioned on two grounds.

In the first place, dead-weight effects can be taken to be substantial, since early intervention will direct scarce resources towards the unemployed who would leave unemployment early anyway. Second, for those unemployed really at risk of becoming long-term unemployed, early intervention could be warranted provided it were possible to identify who is at risk and who is not (literature is rather pessimistic on the possibility of early identification).

However, even if the unemployed at risk would benefit from current early interventionist programmes if they were targeted exclusively at the groups at risk – which is questionable since existing measures either lack enough depth to remedy their problems fundamentally (e.g. short training courses), or only have a temporary nature (e.g. temporary wage subsidies) – it stands to reason that the unemployed at risk will not benefit much when all the unemployed are targeted.

873

Bibliography

Abraham K., 1991. Mismatch and labour mobility: some final remarks. *In:* Padoa Schioppa, ed. *Mismatch and labour mobility*, pp. 453-481.

Abramson L., Seligman M., Teasdale J., 1978. Learned helplessness in humans: critique and reformulation. *Journal of abnormal Psychology*, 87, p. 49-74.

Acemoglu D., 1992. *An endogenous skill loss model of long-term unemployment*, Center for Economic Performance Discussion Paper, 61, 24 pp.

Ahn N., Ugidos-Olazabal A., 1995. Duration of Unemployment in Spain: Relative Effects of Unemployment Benefit and Family Characteristics. *Oxford-Bulletin-of-Economics-and-Statistics*, **57** (2), May, pp. 249-64.

Amable B. et al., 1995. Hysteresis revisited: a methodological approach. *In:* Cross R., ed. *The natural rate of unemployment. Reflections on 25 years of the hypothesis*. Cambridge University Press, pp. 153-180.

Arrow K., 1972. Models of job discrimination. *In:* Pascal H., ed. *Racial discrimination in economic life*.

Atkinson A., Micklewright J., 1991. Unemployment Compensation and Labor Market Transitions: a Critical Review. *Journal of Economic Literature*, December, pp. 1679-1727.

Atkinson J., Giles L., Meager N., 1996. *Employers, Recruitment and the unemployed*, IES Report n. 325. Institute for Employment Studies.

Autor D., Katz L., Krueger A., 1998. Computing inequality: have computers changed the labor market? *Quarterly Journal of Economics*, **113** (4), pp. 1169-1213.

Banks M., Ullah P., 1988. *Youth unemployment in the 1980s: its psychological effects*.

Baum A., Fleming R., Reddy D., 1986. Unemployment stress: loss of control, reactance and learned helplessness. *Social Science and Medicine*, 22, pp. 509-516.

Bean C., 1989. Capital shortages and persistent unemployment. *Economic Policy*, April, pp. 12-53.

Bean C., 1994. European Unemployment: a survey. *Journal-of-Economic-Literature*, 32, pp. 573-619.

Bean C., Pissarides C., 1991. Skill Shortages and Structural Unemployment in Britain: A (Mis)matching Approach. *In:* Padoa-Schioppa, ed. *Mismatch and labour mobility*, pp. 325-53.

Berman E., Bound J., Machin S., 1998. Implications of skill-biased technological change: international evidence. *Quarterly Journal of Economics*, **113** (4), pp. 1245-1279.

Blanchard O, Diamond P., 1994. Ranking, unemployment duration, and wages. *Review of Economic Studies*, 61, pp. 417-434.

Blanchard O., 1991. Wage bargaining and unemployment persistence. *Journal of Money, Credit and Banking*, 23, pp. 277-292.

Blanchard O., Jimeno J., Andres J., Bean C., Malinvaud E., Revenga A., Saint-Paul G., Snower D., Solow R., Taguas D., Toharia L., 1995. *The Spanish unemployment: is there a solution?*, CEPR Publications, London, pp. 146.

Blanchard O., Summers L., 1986a. *Hysteresis and the European unemployment problem*. National bureau of economic research Cambridge (Mass.), 78 pp.

Blanchard O., Summers L., 1986b. *Hysteresis in unemployment*. National bureau of economic research Cambridge (Mass.), 12 pp.

Blau F., Kahn L., 1996. International differences in male wage inequality: institutions versus market forces. *Journal of Political Economy*, **104** (4), pp. 791-837.

Booth A., Snower D., ed., 1996. *Acquiring skills. Market Failures, their Symptoms and policy responses*. CEPR, Cambridge University Press, 354 pp.

Budd A., Levine P., Smith P., 1987. Long-term unemployment and the shifting U/V curve: a multicountry study. *European Economic Review*, 31, pp. 296-305.

Burchell B., 1993. The Effects of Labour Market Position, Job Insecurity, and Unemployment on Psychological Health. *In:* Gallie D., Marsh C., Vogler C., eds. *Social change and the experience of unemployment, Social Change and Economic Life Initiative series*. Oxford and New York: Oxford University Press, pp. 188-212.

Burda M., 1988. Is there a capital shortage in Europe? *Weltwirtschaftliches Archiv*, 124, pp. 38-57.

Burnett J., 1994. *Idle hands: The experience of unemployment, 1790-1990*, London and New York: Routledge, pp. ix, 368.

Calmfors L., 1994. *Active labour market policy and unemployment—A framework for the analysis of crucial design features*, OECD Labour market and social policy occasional papers N. 15, 33 pp.

Catalano R., Dooley D., 1988. *Psychological effects of unemployment*.

Cazals M., Almudever B., Fraccaroli F., 1995. Social support, coping strategies, and psychological well-being among young people awaiting employment. *In:* Peiro J., Prieto F., eds. et al. *Work and organizational psychology: European contributions of the nineties*. Hove, England UK: Erlbaum (Uk) Taylor & Francis, Publishers. viii, 357 pp., pp. 89-100.

Chamberlain G., 1985. Heterogeneity, ommitted variable bias and duration dependence. *In:* Heckman J., Singer B., eds. *The longitudinal Analysis of Labor Market Data*. Cambridge.

Cockx B., 1998. *The design of Active Labour Market Policies: what matters and what doesn't*, paper presented on the Conference on Institutional and financial Incentives for Social Insurance, Louvain-la-Neuve, December 1989, first draft.

Colbjørnsen T., Dahl S., Hansen S., 1992. *Landtidsarbeidsløshet. Arsaker, konsekvesner og mestring*, SNF-rapport N. 8/1992. Bergen: Stiftelsen for samfunns- og naeringslivsforskning.

Creed P., Machin M., Hicks R., 1996. Neuroticism and mental health outcomes for long-term unemployed youth attending occupational skills training programs. *Personality-and-Individual-Differences*, October, **21** (4), pp. 537-544.

Cross R., 1995. Is the natural rate hypothesis consistent with hysteresis? *In:* Cross R., ed. *The natural rate of unemployment. Reflections on 25 years of the hypothesis*. Cambridge University Press, pp. 181-200.

Cross R., Darby J., Ireland J., 1997. *European unemployment: macroeconomic aspects: hysteresis and ranges or intervals for equilibrium unemployment*. European University Institute. Robert Schuman centre San Domenico, 42 pp.

Darity W., Goldsmith A., 1993. Unemployment, Social Psychology, and Unemployment Hysteresis. *Journal-of-Post-Keynesian-Economics*, **16** (1), Fall, pp. 55-71.

Darity W., Goldsmith A., 1996. Social Psychology, Unemployment and Macroeconomics. *Journal-of-Economic-Perspectives*, **10** (1), Winter, pp. 121-40.

Davies G., 1996. The employment support network--an intervention to assist displaced workers. *Journal-of-Employment-Counseling*, Dec., **33** (4), pp. 146-154.

De Witte H., 1993. Gevolgen van langdurige werkloosheid voor het psychisch welzijn: overzicht van de onderzoeksliteratuur/Psychological consequenses of long-term unemployment: review of the literature. *Psychologica Belgica*, **33** (1), pp. 1-35.

Dejemeppe M., Cockx B., 1998a. La conception des politiques en faveur de l'emploi. L'importance d'un diagnostic des causes du chômage structurel. *In: Congrès des économistes belges de langue française*. Commission 4, pp. 177-201.

Dejemeppe M., Cockx B., 1998b. *Duration dependence in the exit rate out of unemployment in Wallonia. Is it true or spurious?* Paper presented at the EALE conference. Blankenberge, September 1998.

Denolf L., Denys J., 1996. *Les entreprises et le recrutement en Belgique. 1995*, Brussels: UPEDI.

Denolf L., Denys J., 1998. *Les entreprises et le recrutement en Belgique. 1997*. Brussels: UPEDI.

Devine T., Kiefer N., 1991. *Empirical Labor Economics. The Search Approach*. Oxford University Press, 343 pp.

Devine T., Kiefer N., 1993. The empirical Status of Job Search Theory. *Labour Economics*, **1** (1), pp. 3-24.

Dolado J., Jimeno J., 1997. The Causes of Spanish Unemployment: A Structural VAR Approach. *European-Economic-Review*, **41** (7), July, pp. 1281-1307.

Draper D., Manders A., 1997. Structural changes in the demand for labor. *De Economist*, **145** (4), pp. 521-546.

830

Drèze J., Malinvaud E. et al., 1994. Growth and employment: the scope for an European Initiative. *European Economy*, 1, pp. 75-106.

Drèze J., Sneessens H., 1997. Technological development, competition from low-wage economies and low-skilled employment. *In:* Snower D., De La Dehesa G., eds. *Unemployment Policy: government options for the labour market*, Cambridge University Press, pp. 250-277.

Elias P., 1996. *The development and structure of Long-term Unemployment in Britain*, paper presented to the seminar 'Long-term unemployment, a European problem'. Genshagen: Landesakademie für Struktur und Arbeit.

Ellwood D., 1982. Teenage unemployment: permanent scars or temporary blemishes? *In:* Freeman R., Wise D., eds. *The youth labor market: its nature, causes and consequences*. Chicago University Press.

Elmslie B., Sedo S., 1996. Discrimination, Social Psychology, and Hysteresis in Labor Markets. *Journal-of-Economic-Psychology*, **17** (4), August, pp. 465-78.

Entorf H., 1998. *Mismatch explanations of european unemployment. A critical ecaluation*, Springer Verlag.

ESRI, 1991. *Survey of Employers' Perceptions*. Dublin: Economic and Social Research Institute.

European Commission, 1999. *Employment in Europe 1998*. Luxembourg.

Evans S., Banks M., 1992. Latent Functions of Employment: Variations According to Employment Status and Labour Market. *In:* Verhaar C., Jansma L., et al., eds. *On the mysteries of unemployment: Causes, consequences and policies*. Studies in Operational Regional Science, Vol. 10. Norwell, Mass. and Dordrecht: Kluwer Academic, pp. 281-95.

Feather N., 1997. Economic deprivation and the psychological impact of unemployment. *Australian-Psychologist*, March, **32** (1), pp. 37-45.

Feather, N., 1990. *The psychological impact of unemployment*.

Fleming R., Baum A., Reddy D., 1984. Behavioral and biochemical effects of job loss and unemployment stress. *Journal of Human Stress*, 10, pp. 12-17.

Franz W., 1987. Hysteresis, persistence and the NAIRU: an empirical analysis for the Federal Republic of Germany. *In:* Layard R., Calmfors L., eds. *The fight against unemployment*, pp. 91-122.

Franz W., 1990. *Hysteresis effects in economic models*. Physica-Verlag Heidelberg.

Franz W., 1991. Match and mismatch on the German labour market. *In:* Padoa Schioppa, ed. *Mismatch and labour mobility*, pp. 105-135.

Fryer D., 1992. *Marienthal and beyond: 20th century research on unemployment and mental health* / Ed. by David Fryer.

Fryer D., 1992. Poverty Stricken? A Plea for a Greater Emphasis on the Role of Poverty in Psychological Research on Unemployment and Mental Health in the Social Context. *In:* Verhaar C., Jansma L., et al., eds. *On the mysteries of unemployment: Causes, consequences and policies*. Studies in Operational Regional Science, vol. 10. Norwell, Mass. and Dordrecht: Kluwer Academic, pp. 191-208.

Furnham A., 1988. Unemployment. *In:* van-Raaij W., van-Veldhoven Gery., Warneryd K., eds. *Handbook of economic psychology*. Dordrecht and Norwell, Mass.: Kluwer Academic, pp. 595-637.

Gallie D., Marsh C., Vogler C., eds., 1993. *Social change and the experience of unemployment, Social Change and Economic Life Initiative series*. Oxford and New York: Oxford University Press, pp. xvii, 373.

Gazier B., Silvera R., 1993. L'allègement du coût saraliel: a-t-il un effet sur l'embauche? *Travail et Emploi*, 55, pp. 60-70.

Gershuny J., 1993. The Psychological Consequences of Unemployment: An Assessment of the Jahoda Thesis. *In:* Gallie D., Marsh C., Vogler C., eds. *Social change and the experience of unemployment, Social Change and Economic Life Initiative series*. Oxford and New York: Oxford University Press, pp. 213-30.

Goldsmith A., Darity W., 1992. Social Psychology, Unemployment Exposure and Equilibrium Unemployment. *Journal-of-Economic-Psychology*, **13** (3), September, pp. 449-71.

Goldsmith A., Veum J., Darity W., 1995. Are Being Unemployed and Being Out of the Labor Force Distinct States?: A Psychological Approach. *Journal-of-Economic-Psychology*, **16** (2), July, pp. 275-95.

881

Goldsmith A., Veum J., Darity W., 1996. The Impact of Labor Force History on Self-Esteem and Its Component Parts, Anxiety, Alienation and Depression. *Journal-of-Economic-Psychology*, **17** (2), April, pp. 183-220.

Goldsmith A., Veum J., Darity W., 1996. The psychological impact of unemployment and joblessness. *Journal-of-Socio-Economics*, Fal, **25** (3), pp. 333-358.

Goldsmith A., Veum J., Darity W., 1997. Unemployment, Joblessness, Psychological Well-Being and Self-Esteem: Theory and Evidence. *Journal-of-Socio-Economics*, **26** (2), pp. 133-58.

Gorter D., Gorter C., 1993. The Relation between Unemployment Benefits, the Reservation Wage and Search Duration. *Oxford-Bulletin-of-Economics-and-Statistics*, **55** (2), May, pp. 199-214.

Graafland J., 1990. *Persistent unemployment, wages and hysteresis*; Wibro Helmond.

Greenhalgh C., Gregory M., Zissimos B., 1997. *The impact of trade, technological change and final demand on the skill structure of UK employment*, Paper presented at the Lower Conference, LSE. London, December 1997.

Groot W., Jehoel-Gijsbers G., 1992. The Effects of Unemployment Benefit Levels on the Duration of Unemployment. *In:* Verhaar C., Jansma L. et al., eds. *On the mysteries of unemployment: Causes, consequences and policies*, Studies in Operational Regional Science, vol. 10. Norwell, Mass. and Dordrecht: Kluwer Academic, pp. 70-87.

Hamermesh D., 1999, LEEping into the future of labor economics: the research potential of linking employer and employee data. Labour Economics, **6** (1), pp. 25-41.

Hayes J., Nutman P., 1981. *Understanding the unemployed: the psychological effects of unemployment.*

Henry S., Snower D., eds., 1996. *Economic Policies and unemployment dynamics in Europe.* Washington: IMF.

Hernaes E., Strom S., 1996. Heterogeneity and Unemployment Duration. *Labour*, **10** (2), Summer, pp. 269-96.

Heylen F., 1993. *The theory and evidence of unemployment persistence. A review of the literature*, Rapport 93/289. Antwerp: SESO-UFSIA, 39 pp.

Hovland O., Jentoft M., Moldjord K., 1996. A vaere arbeidsledig. En undersokelse av forholdet mellom arbeidsledighet og psykisk helse./ Being unemployed: An analysis of the relationship between unemployment and psychological health. *Tidsskrift-for-Norsk-Psykologforening*, February, **33** (2), pp. 110-119.

Jackman R., Layard R., 1991. Does Long-Term Unemployment reduce a person's Chance of a job?: a time-series test. *Economica*, 58, pp. 93-106.

Jackman R., Layard R., Manacorda M., Petrongolo B., 1996. *European vs. US unemployment: different responses to the same shock?*, unpublished, LSE.

Jackman R., Layard R., Savouri S., 1991. Mismatch: a framework for thought. *In:* Padoa-Schioppa, ed. *Mismatch and labour mobility*, pp. 44-101.

Jackman R., Roper S., 1987. Structural unemployment, Oxford Bulletin of Economics and Statistics, 49, p. 9-37.

Jahoda M., 1982. *Employment and unemployment: a social-psychological analysis.*

Jensen A., Verner M., 1996. Dagpengenes betydning for omfanget af arbejdsloshed i Danmark. *Nationalokonomisk-Tidsskrift*, **134** (3), pp. 238-56.

Kelvin P., Jarrett J., 1985. *Unemployment: its social psychological effects.*

Korpi T., 1995. Effects of manpower policies on duration dependence in reemployment rates: the example of Sweden. *Economica*, **62** (247), pp. 353-371.

Krueger A., 1993. How computers have changed the wage structure: evidence from micro data, 1984-89. *Quarterly Journal of Economics*, 108, pp. 33-60.

Krugman P., 1994. Past and prospective causes of high unemployment. *Economic Review*. Federal Reserve Bank of Kansas City, pp. 23-43.

Lamberts M., 1993. *Ze vragen zoveel aandacht, meneer. Tewerkstelling en aanwervingsbeleid ten aanzien van laaggeschoolden en kansarmen.* Leuven: HIVA.

Lancaster T., 1990. *The econometric analysis of transition data.* Cambridge University Press.

Layard R., Nickell S., Jackman R., 1991. *Unemployment, Macroeconomic performance and the labour market*. Oxford University Press.

Leana C., Feldman D., 1994. The Psychology of Job Loss. *In:* Ferris G., ed. *Research in personnel and human resources management*, Volume 12. Greenwich, Conn. and London: JAI Press, pp. 271-302.

Levy F., Murnane R., 1994) Skills, Demography, and the Economy: Is There a Mismatch? *In:* Solmon L., Levenson A., eds. *Labor markets, employment policy, and job creation*. Milkin Institute Series in Economics and Education. Boulder and London: Westview Press in cooperation with the Milken Institute for Job and Capital Formation, pp. 361-76.

Lilja R., 1993. Unemployment Benefit System and Unemployment Duration in Finland. *Finnish-Economic-Papers*, **6** (1), Spring, pp. 25-37.

Lindbeck A, Snower D., 1986. Wage setting, unemployment, and insider-outsider relations. *American Economic Review*, 76, pp. 235-239.

Lindbeck A, Snower D., 1987. Union activity, unemployment persistence and wage-employment ratchets. *European Economic Review*, 31, pp. 157-167.

Lubyova M., Van Ours J., 1997. Unemployment Dynamics and the Restructuring of the Slovak Unemployment Benefit System. *European-Economic-Review*, **41** (3-5), April, pp. 925-34.

Lynch L., 1985. State Dependence in youth unemployment: a lost generation? *Journal of Econometrics*, 28, pp. 71-84.

Lynch L., 1989. The youth labor market in the eighties, determinants and reemployment probabilities for young men and women. *Review of Economics and Statistics*, **71** (1), pp. 37-45.

Machin S., 1996. Changes in the relative demand for skills. *In:* Booth and Snower, ed. *Acquiring skills. Market Failures, their Symptoms and policy responses*, pp. 129-146.

Machin S., Van Reenen J., 1998. Technology and changes in skill structure: evidence from seven OECD countries. *Quarterly Journal of Economics*, **113** (4), pp. 1215-1244.

Manacorda M., Manning A., 1997. *Just can't get enough: more on skill-biassed change and Unemployment*, Paper presented at the Lower Conference. London: LSE, December 1997.

Manacorda M., Petrongolo B., 1996. *Skill Mismatch and Unemployment in OECD Countries*. London School of Economics Centre for Economic Performance Discussion Paper: 307, September, pp. 26.

Mankiw N., 1990. A quick refresher course in Macroeconomics. *Journal of Economic Literature*, December, pp. 1645-1660.

McFayden R., Thomas J., 1997. Economic and psychological models of job search behavior of the unemployed. *Human-Relations*, December, **50** (12), pp. 1461-1484.

Meager N., Evans C., 1998. *The evaluation of active labour market measures for the long term unemployed, Employment and Training papers 16*. Geneva: International Labour Office, pp. 83.

Meager N., Metcalf H., 1987. *Recruitment of the Long-term unemployed*, IMS Report n. 138, Brighton: Institute of Manpower Studies.

Modigliani F. et al., 1987. Reducing unemployment in Europe: the role of capital formation. *In:* Layard R., Calmfors L., eds. *The fight against unemployment*, pp. 11-47.

Muysken J., ed., 1994. *Measurement and analysis of job vacancies. An international comparison*. Avebury.

Narendranathan W., Elias P., 1993. Influence of past history on the incidence of youth unemployment: empirical findings for the UK. *Oxford Bulletin of Economics and Statistics*, **55** (2), pp. 161-186.

Narendranathan W., Stewart M., 1989. *Modelling the probability of leaving unemployment: Competing risk models with a flexible baseline hazard*, Warwick Economic Research Paper N. 375. University of Warwick.

Nickell S., Bell B., 1995. The collapse in demand for the unskilled and unemployment in the OECD. *Oxford Review of Economic Policy*, 11, 40.

Nickell S., Bell B., 1996. Changes in the distribution of wages and unemployment in OECD Countries. *American Economic Review*, 86, pp. 302-308.

O-Brien G., 1986. *Psychology of work and unemployment*.

OECD, Education at a glance, OECD Indicators, Centre for educational research and innovation, Paris, several issues.

OECD, 1993. Active labour market policies: assessing macroeconomic and microeconomic effects. *Employment Outlook*, July.

OECD, 1994. *The OECD Jobs Study. Evidence and explanations, Part II. The adjustment potential of the labour market.*

OECD, 1996. *The OECD Jobs Strategy. Technology, Productivity and Job Creation. Vol. 2 Analytical Report.*

OECD, 1997. *Literacy skills for the knowledge society. Further results from the International Adult Literacy Survey.*

Ottosen G., Thompson D., 1996. *Reducing unemployment: A case for government deregulation*. Westport, Conn. and London: Greenwood, Praeger.

Padoa Schioppa F., ed., 1991. *Mismatch and labour mobility*. Cambridge, New York and Melbourne: Cambridge University Press, pp. xxvii, 493.

Phelps E., 1972a. *Inflation policy and unemployment theory*. London: Macmillan.

Phelps E., 1972b. The statistical theory of racism and sexism. *American Economic Review*, **62** (4), pp. 659-661.

Pissarides C., 1992. Loss of skill during unemployment and the persistence of employment shocks. *Quarterly Journal of economics*, **107** (99), pp. 1371-1391.

Portugal P., Addison T., 1995. Short- and Long-term Unemployment: a Parametric model with Time-Varying Effects. *Oxford Bulletin of Economics and Statistics*, **57** (2), pp. 205-225.

Price S., 1988. Unemployment and worker quality. *In:* Cross R., ed., 1988. *Unemployment, hysteresis and the natural rate hypothesis*, pp. 158-179.

Robst J., 1995. Career Mobility, Job Match, and Overeducation. *Eastern-Economic-Journal*, **21** (4), Fall, pp. 539-50.

Roed K., 1996. Unemployment Hysteresis--Macro Evidence from 16 OECD Countries. *Empirical-Economics*, **21** (4), pp. 589-600.

Roed K., 1997. Hysteresis in Unemployment. *Journal-of-Economic-Surveys*, **11** (4), December, pp. 389-418.

Ronayne T., Creedon M., 1993. *When skills are not enough: the recruitment practices, views and attitudes of employers regarding the Long-Term Unemployed*. Dublin: WRC Social and Economic Consultants.

Schaufeli W., 1988. *Unemployment and psychological health: An investigation among dutch professionals*. Rijksuniversiteit Groningen: Faculteit der psychologische, pedagogische en sociologische wetenschappen.

Schettkat R., 1992. Mismatch in the West German Labour Market. *Labour*, **6** (1), pp. 121-139.

Schmitt J., Wadsworth J., 1993. Unemployment Benefit Levels and Search Activity. *Oxford-Bulletin-of-Economics-and-Statistics*, **55** (1), February, pp. 1-24.

Sessions J., 1994. Unemployment Stigma and Multiple Labour Market Equilibria: A Social-Psychological Interpretation of Hysteresis. *Labour*, **8** (3), Autumn, pp. 355-75.

Simoens P., Denolf L., Denys J., 1997. *Les entreprises et le recrutement en Belgique. 1996*. Brussels: UPEDI.

Smari J., Arason E., Hafsteinsson H., Ingimarsson S., 1997. Unemployment, coping and psychological distress. *Scandinavian-Journal-of-Psychology*, June, **38** (2), pp. 151-156.

Sneesens H., 1995a. Courbe de Beveridge et demande de qualifications. *Economie et Prévision*, pp. 127-138.

Sneessens H., 1995b. *Asymmetric growth effects, skill mismatch and unemployment persistence*. mimeo.

Sneessens H., Fonseca R., Maillard B. (1997), *Structural adjustment and unemployment persistence (with an application to France and Spain)*, Paper presented at the EALE Conference, September 1998, Blankenberge.

Sneessens H., Shadman Metha F., 1995. Real Wages, Skill Mismatch and Unemployment Persistence France, 1962-1989. *Annales-d'Economie-et-de-Statistique*, 0 (37-38), January-June, pp. 255-92.

Snower D., 1996. The low-skill, bad-job trap. *In:* Booth and Snower, ed. *Acquiring skills. Market Failures, their Symptoms and policy responses*, pp. 111-124.

Song F., Wu Y., 1997. Hysteresis in Unemployment: Evidence from 48 U.S. States. *Economic-Inquiry*, **35** (2), April, pp. 235-43.

Song F., Wu Y., 1998. Hysteresis in Unemployment: Evidence from OECD Countries. *Quarterly-Review-of-Economics-and-Finance*, 38 (2), Summer, pp. 181-92.

Soskice D., 1991. Skill Mismatch, Training Systems and Equilibrium Unemployment: A Comparative Institutional Analysis. *In:* Padoa-Schioppa, ed. *Mismatch and labour mobility*, pp. 386-400.

Stancanelli E., 1996. L'impact de l'allocation chômage sur la probabilite de réemploi: De nouveaux resultats pour le Royaume-Uni. *Economie-et-Prevision*, **0** (126), pp. 31-44.

Summers L., 1990. *Understanding Unemployment*. MIT Press.

Taris T., 1998. Een levensloop-perspectief op de relatie tussen psychisch welzijn en werkloosheid. Gedrag en Organisatie, **11** (1), pp. 1-14

Tessaring M., 1998. *Training for a changing society. A report on current vocational education and training research in Europe*. Cedefop. 2nd ed., Luxembourg: EUR-OP.

Theodossiou I., 1998. The Effects of Low-Pay and Unemployment on Psychological Well-Being: A Logistic Regression Approach. *Journal-of-Health-Economics*, **17** (1), January, pp. 85-104.

Tötsch I., 1988. Sreening in labour markets with heterogeneous workers. *In:* Cross R., ed. *Unemployment, hysteresis and the natural rate hypothesis*, pp. 180-200.

Underlid K., 1996. Activity during unemployment and mental health. *Scandinavian-Journal-of-Psychology*, September, **37** (3), pp. 269-281.

Van Den Berg G., Van Ours J., 1994. Unemployment dynamics and duration dependence in France, the Netherlands and the United Kingdom. *Economic Journal*, 104, pp. 432-443.

Van Den Berg G., Van Ours J., 1996. Unemployment dynamics and duration dependence. *Journal of Labor Economics*, 14, pp. 100-125.

Van der Linden B., ed., 1997. *Chômage. Réduire la fracture*. De Boeck Université, 516 pp.

Van Ours J., Ridder G., 1995. Job matching and job competition: are lower educated workers at the back of job queues? *European Economic Review*, 39, pp. 1717-1731.

van-Raaij W., van-Veldhoven G., Warneryd K., eds., 1988. *Handbook of economic psychology*. Dordrecht and Norwell, Mass.: Kluwer Academic, ix, 683.

Wadsworth J., 1992. *Unemployment Benefits and Labour Market Transitions in Britain*. Centre for Economic Performance Discussion Paper, 73, April, pp. 19.

Wanberg C., Griffiths R., Gavin M., 1997. Time structure and unemployment: A longitudinal investigation. *Journal-of-Occupational-and-Organizational-Psychology*, March 1997, **70** (1), pp. 75-95.

Wanberg C., Watt J., Rumsey D., 1996. Individuals without jobs: An empirical study of job-seeking behavior and reemployment. *Journal-of-Applied-Psychology*, February, **81** (1), pp. 76-87.

Whelan C., 1994. Poverty, Unemployment, and Psychological Distress. *In:* Nolan B., Callan T., eds. *Poverty and policy in Ireland*. Dublin: Gill and Macmillan, pp. 149-63.

Winefield A. et al., 1993. *Growing up with unemployment: A longitudinal study of its psychological impact, Adolescence and Society series*. London and New York: Routledge, pp. viii, 200.

Winefield A., 1997. Introduction to the psychological effects of youth unemployment: International perspectives. *Journal-of-Adolescence*, June, **20** (3), pp. 237-241.

Winter-Ebmer R., 1991. Some Micro Evidence on Unemployment Persistence. *Oxford-Bulletin of Economics and Statistics*, 53(1), February, pp. 27-43.

Winter-Ebmer R., 1998. Potential Unemployment Benefit Duration and Spell Length: Lessons from a Quasi-Experiment in Austria. *Oxford-Bulletin-of-Economics-and-Statistics*, **60** (1), February, pp. 33-45.

Wortham C., Brehm J., 1975. Responses to uncontrollable outcomes: an integration of reactance theory and the learned helplessness model. *In:* Berkowitch L., ed. *Advances in experimental social psychology*, vol. 8, New York, pp. 278-332.

883

Overqualification: reasons, measurement issues and typological affinity to unemployment

Felix Büchel

Abstract

This paper focuses primarily on two essential aspects of overqualification research: the reasons why people find themselves in underskilled jobs and the problems involved in establishing a valid means of identifying such a situation.

Starting with an extensive terminological discussion, the paper briefly introduces the various theories explaining the phenomenon of overqualification and discusses some influential factors that have rarely been examined in any work of literature, namely institutional and macroeconomic conditions and labour utility and productivity assessments on the supply and demand sides.

The next step is a systematic examination of the problems involved in identifying underskilled jobs. It begins with an explanation of the two main measurement strategies (the 'objective' and the 'subjective' approaches) and their diverse variants including unorthodox measurement processes. Thereafter, an extension of the subjective measurement strategy is introduced; in terms of validity, it is probably superior to the forms of categorisation that have been used hitherto.

The paper goes on to provide a comprehensive review of research literature, beginning with the origins of the debate in the educational expansion of the 1970s and 1980s. It retraces the academic discussion on the overqualification problem in the United States, then portrays the German situation as an example of the early development of overqualification research outside the United States. It goes on to introduce more recent work from the United States and Europe, including international comparative studies.

On the basis of longitudinal data from Germany, the theoretical analogy between unemployment and overqualification is empirically tested. The first part of this test focuses on four subjective indicators, which are tested for divergences between unemployed people, people in underskilled jobs and people whose jobs match their qualifications; the four indicators, which are already established in the field of static unemployment research, are problem-solving skills, morale, concerns about the future and participation in the political process. In the second part of the test, the set of instruments used in dynamic unemployment research is applied to analyse overqualification. The analysis is based on examples of movements from various types of employment status into underskilled work and from underskilled work into unemployment (downward career moves) as well as transitions from underskilled to adequately skilled jobs (upward career moves). Particular interest attaches to the question of the extent to which underskilled work and unemployment are alternative situations. Finally, the paper examines longer-term income effects of overqualification. Here, too, the main question is whether a period spent in an underskilled job creates income effects which – as should theoretically be the case – lie somewhere between the effects of a period spent in an adequately skilled job and those of a spell of unemployment.

The study ends with a catalogue of methodological conclusions, aimed at employment researchers, and substantive considerations, aimed at policymakers in the fields of education and employment.

886

Table of contents

1. Introduction 456

2. Subject of the study and definitions 459

3. Theoretical reflections on the causes of overqualification 461
3.1 Overqualification from the neoclassical perspective 461
3.2 Decision-making in the event of an individual mismatch between a person's skill profile and the job description 461
The employee's decision 462
The employer's decision 462
3.3 Explanatory methods based on partial analysis 463
3.3.1 Established methods 463
The human capital theory 463
The assignment theory 463
Filtering, signalling and screening approaches 464
Job-competition model 465
The job-matching theory 467
Career mobility theory 468
The theory of differential overqualification 470
The job-search theory 473
3.3.2 Unorthodox approaches 473
Segmentation approach 473
The Marxist dialectical approach 475
3.4 Extraneous conditions 476
3.4.1 Institutional regulation 476
3.4.2 The production structure and conditions in the labour market 478
3.4.3 Employees' utility preferences 478
3.4.4 Employers' productivity considerations 479

4. Strategies for measuring the educational adequacy of a job 482
4.1 Existing measurement strategies 482
4.1.1 The 'objective' approach 482
4.1.2 The 'subjective' approach 488
4.1.3 Unorthodox measurement strategies 489
4.2 An innovative approach 491

5. Overqualification: a literature survey 491
5.1 Origins of the discussion 491
5.1.1 The U.S. discussion from the sixties to the eighties 491
5.1.2 The early discussion outside the United States: the case of Germany 493
5.2 Present state of research 495
5.2.1 Recent studies relating to the United States and Canada 495
5.2.2 Recent studies relating to the countries of the European Union 496
The Netherlands 496
Germany 498
Other countries of the European Union 501
5.2.3 International comparative studies 503

887

6. Overqualification and unemployment: The case of Germany 504
6.1 Research approach 504
6.1.1 Database 504
Information on the education and training of foreigners 504
General case selection 505
6.1.2 Categorisation of overqualification 505
Identifying underqualification 507
The degree of overqualification 507
Validity checking 508
6.1.3 The evaluation process 508
6.2 Subjective indicators: differences between adequate employment, overqualification and unemployment 509
6.2.1 Problem-solving capacity 509
6.2.2 Morale 509
6.2.3 People's concern about their own economic prospects 510
6.2.4 Political involvement 510
6.3 Transition to inadequate employment 510
6.3.1 Preliminary remarks on the dynamics of individual overqualification 510
6.3.2 Descriptive findings 511
6.3.3 Multivariate findings 512
6.4 Selected transitions from overqualification 513
6.4.1 Transition to unemployment 514
Transition to unemployment from inadequate or adequate employment 514
Transition from adequate employment to unemployment – directly or via overqualification 514
6.4.2 Transition to adequate employment 515
Transition to adequate employment from overqualification or unemployment 515
Transition from unemployment to adequate employment – directly or via overqualification 515
6.5 Income effects of overqualification 516
6.5.1 Income growth among people who are initially overqualified 516
6.5.2 Erosion of human capital through overqualification 516

7. Conclusions 517
7.1 Methodological consequences for employment researchers 517
7.2 Implications for education and employment policies 519
7.2.1 Implications for education policy 519
Dual vocational training 520
Higher education 521
7.2.2 Implications for employment policy 522

Summary 524

Bibliography 528

Annex 544
Classification model of overqualification 544
Empirical results for Germany 545

888

'There can never be too much education' (Rumberger, 1981b, p. 7).
'He is an overeducated s.o.b.' (Harry S. Truman on J. William Fulbright)[1]

1. Introduction[2]

It has gradually come to be recognised and is now an unchallenged truism that the human capital a society has accumulated in the form of education, and especially vocational education, is a crucial location factor in the context of global economic competition. If the matter is considered in this light, however, the entire human capital created through the education system is not what counts but only that which is 'productively' invested in the economy. Because of the mass unemployment that prevails in most European countries, substantial volumes of human capital are lying dormant. The result of this is economic underachievement by the Member States of the European Union. The 'superfluous' skills and qualifications, in other words those for which there is no demand in the labour market, are not just temporarily sidelined but are also rapidly devalued as a result of disuse and the consequent absence of training opportunities. This hysteresis phenomenon, in which the unbalanced labour market is both an effect of past unemployment and a cause of future unemployment, causes the problems to escalate with the passage of time.

The losses to national economies and the social problems that are generated by unemployment are clearly recognised, not only in employment research but by the general public too. One of the main aims of this study is to draw attention to the fact that the actual surplus of vocational skills and qualifications produced by the education system considerably exceeds the surplus indicated by unemployment statistics, even if analyses of hidden labour reserves are taken into account. Unused and therefore unproductive skills also come into the reckoning when individuals have jobs for which they are palpably overqualified. The analogy between such underskilled work, where the employee's level of training exceeds the job requirements, and unemployment is unmistakable: the entire human capital of jobseekers lies idle, while only part of the human capital of overqualified employees lies idle. The latter phenomenon is also absolutely relevant to national economies; its significance can be measured if the number of overqualified employees[3] is multiplied by the amount of skill wastage. The skill wastage may be empirically calculated, for example, as the difference between the remuneration of overqualified employees and the amount they would be earning if their job matched their skill and qualification level (see, for example, Duncan and Hoffmann, 1981; Daly et al. (forthcoming) and Büchel and Weißhuhn, 1997c and 1998). It is therefore no coincidence that the editors of the present report have combined the sections on unemployment and overqualification into a single section. A structural analogy between unemployed status and overqualification can also be derived from the terminological definition laid down by the OECD,[4] which uses 'unemployment and underemployment' as a conceptual entity within its system. It divides the

[1] s.o.b. = son of a bitch. Source: *Die Zeit* of 17 February 1995, p. 9.

[2] The author thanks Manfred Tessaring for most important observations and Johannes Giesecke for his valuable assistance in implementing an enhanced version of literature management software.

[3] The overqualified percentage of the labour force varies widely, depending on the measurement process (on this central problem of overqualification research, see for example Smith (1986), Groot and Maassen van den Brink (forthcoming) and section 5 of the present study, which goes into some detail on the subject). The crucial point, however, is that this percentage is so high in all the Western industrialised countries that it cannot be ignored. For example, it exceeds the national unemployment rate in every country. Hartog (1997) and Borghans et al. (1998), as well as Groot and Maassen van den Brink (forthcoming) and Hartog (1999b) provide international comparisons of the frequency with which overqualification is observed.

[4] Resolution I of the International Conference of Labour Statisticians (ICLS) on the ILO: see OECD, 1995a, pp. 44-45.

category 'underemployment', into two subcategories, namely 'visible' and 'invisible' underemployment. The first term relates to people who are employed but who have fewer working hours than they would wish (see for example Terry, 1981); the second term describes underskilled work ('... refers to individuals who are working in jobs where their skills are not adequately utilised').[5]

At first sight, both of these subcategories appear almost too disparate to be two halves of the same whole. Visible underemployment is structurally closer to unemployed status, since the individual is working less than he or she would wish; in structural terms, it is akin to the German status of *Kurzarbeit*, applicable to employees on short time. On closer inspection, however, typological analogies are impossible to overlook. In neither of the situations can the full economic value of an individual's vocational skill be realised; in the case of visible underemployment, this is because of an unwanted part-time working arrangement, which is ultimately due to restricted demand for the available skill profile; in the case of invisible underemployment, the reason is the low skill level required for the jobs that overqualified individuals take, presumably for want of something better.

The analogy between overqualification in general and unemployment lies in the fact that both are due to the aforementioned lack of demand for particular skills – with unemployment reflecting a total absence of demand and overqualification a shortfall in the volume of demand. The deficit in market demand for vocational skills and qualifications which is a consequence of chronic mass unemployment and which numerous studies have amply demonstrated is therefore systematically underestimated whenever overqualification is left out of the equation.

This typological analogy is presented in tabular form in some of the more recent publications of the U.S. Bureau of Labor Statistics. Hecker (1992, Table1, p.4), for example, presents annual figures under the following three headings: 'All graduates in the labor force', 'Graduates in jobs that require a degree', 'Graduates in jobs that do not require a degree or who are unemployed', the last column being divided into two subcolumns for graduates in non-graduate posts and unemployed graduates.

The structural analogy between unemployment and overqualification, however, has scarcely featured in employment research and its empirical surveying strategies. When researchers examine underskilled work and unemployment simultaneously or accord a similar level of priority to both, they are inclined to assume rather intuitively that both phenomena are serious problems for those who are affected by them and that their widespread occurrence on a macroeconomic scale may be regarded as a symptom of a profound disorder in the labour market.[6] One exception is an earlier study of mine (Büchel (1998b), which undertakes the first systematic examination with the instruments of dynamic unemployment research based on career cycles, assessing for example the probability of access to, continuation in and withdrawal from employment as well as the long-term effects of a period of overqualification.

The question arises as to why the causal link between dormant vocational skills and lower living standards has been clearly recognised and adequately researched in connection with unemployment, whereas considerably less attention has been devoted to the problem of insufficient coordination between the educa-

[5] It should be noted that the term 'underemployment' is sometimes used in a different sense. Ruiz-Quintanilla and Claes (1996), for example, include part-time work, temporary work and unemployment in this category, ignoring the fact that the first two forms, especially part-time work, are often undertaken on a voluntary basis; this broad definition, however, is contrary to the intention underlying the OECD terminology. Another entirely unorthodox version is proposed by Lichter (1988), who uses a category labelled 'underemployment by low income'.

[6] See for example Bielinski et al. (1994 and 1995) in relation to eastern Germany, which seems to illustrate this phenomenon particularly well, or Cedefop (Tessaring, 1998) in the European context.

tion system and the labour market, a problem that manifests itself in the form of overqualification.[7]

There are probably three main reasons. First of all, unemployment is a particularly flagrant waste of human capital, because the loss is absolute. Secondly, unemployment imposes a burden on national economies not only because the unemployed do not contribute to a country's productive output but also because part of the national product has to be diverted into a fund for the payment of unemployment benefits. And thirdly – an aspect that probably should not be underestimated – the precise volume of dormant human capital that results from unemployment has been statistically measured and recorded. Official statistics relating to overqualification, on the other hand, do not flag any problem, especially not in the highly aggregated form in which such statistics are characteristically produced and studied.[8] Take the example of a man with a doctorate in philosophy who works as a taxi driver. He is not unemployed and therefore receives no state benefits – on the contrary, as far as the skill-related labour-market statistics are concerned, he even helps to furnish evidence that the economy employs philosophers and hence that there is a demand for philosophers. This signal is then transmitted to universities and their arts faculties and philosophy departments.

If dormant skills in the labour market are taken into consideration, it follows from the preceding observations that a new dividing line has to be drawn when we examine the labour market. The conventional boundary between jobseekers and employed persons must give way to a division between jobseekers plus people in underskilled jobs on the one hand and employed persons whose jobs match their skill and qualification levels on the other.[9] It is evident that this type of approach must take account of the fact that a considerably higher volume of skill lies dormant when individuals are unemployed than when they are in overqualification, nor can it be denied that unemployment has a far greater impact on both the individual and society than the phenomenon of overqualification. Nevertheless, as far as the utility of acquired vocational knowledge and skill is concerned, there is still a typological analogy between unemployment and overqualification.

The present study pursues three principal objectives. Once the terminological concepts have been clarified, we shall present the first comprehensive investigation designed to establish which of the competing labour-market theories can help to explain the persistence of overqualification (section 3). A politically guided improvement of the interaction between the education system and the labour market, and hence an increase in the efficiency of the education system, cannot be achieved without knowledge of these causal

[7] The contrast here between the public interest and the present state of research is particularly striking (cf. Büchel, 1996b).

[8] Although it is theoretically possible to differentiate, i.e. to break official data down into narrower categories, it is often impossible in practice, because such differentiation presupposes access to the original figures from which the statistics were compiled, and access to these figures is frequently restricted by the authorities. For an example of this type of approach in connection with the subject of the present study, see Plicht et al., 1994.

[9] On this point, compare the generally analogous but considerably more radical and empirically almost unworkable approach presented by Müller and Beck (1993): 'We are speaking [...] of underutilisation of the production factor labour when we refer to members of a country's active population who either do not have a job, even though they are prepared to work for the going rate of pay (unemployment type A) or do have a job but are not used efficiently in the production process (this is what we call hidden unemployment; unemployment type B)' (pp.54-55, including text in parentheses). The employees whom Müller and Beck define as 'not used efficiently' come from a wide variety of categories, such as employees who are surplus to requirements but cannot be dismissed, employees whose job dissatisfaction is reflected in reduced productivity and 'people who, in accordance with the accepted norms of administrative theory, remain in posts in which their services are effectively superfluous' [!] (p.54). For a critique of the conventional dichotomous division of the active population into employed and unemployed persons in a broader context, see also Sulliven, 1981, pp.335ff.

891

links.[10] To supplement this investigation, we shall also review the current state of empirical research (section 4).

Our second objective is to discuss in detail the measurement problems associated with any attempt to define overqualification. It will emerge from this discussion that the volume of overqualification is less accurately measurable than unemployment. At the same time, it will become apparent that these measurement problems not only make international comparisons in the field of overqualification more difficult than those relating to unemployment; the diversity of measurement strategies, to which varying degrees of validity can be ascribed, also leads us to the unsatisfactory conclusion that there is scarcely a consensus on the volume of overqualification within the various national economies. This part of the study concludes with the presentation of our own model for the categorisation of overqualification.

The third objective of the study is to substantiate empirically the postulated analogy between jobseeker status and overqualified employee status. To this end, section 6 pursues an integrated approach, contrasting subjective indicators that are firmly established in employment research, such as satisfaction with life and concerns about the future, for unemployed people, people in underskilled jobs and those whose jobs match their qualification levels. The section also contains a longitudinal analysis of movements between these three types of employment status with a view to establishing whether significant exchange processes are observable, particularly between unemployment and overqualification, and whether the gap between these two situations is narrower than that between skill-matched employment on the one hand and unemployment or overqualification on the other. Section 7 draws conclusions from the preceding reflections and findings.

2. Subject of the study and definitions

The term 'overqualification' is generally used to describe a situation in which the knowledge and skills acquired through the education system are not exploited to the full. This definition is clearly very vague. For that reason, German researchers at any rate do not speak of overqualification unless the required skill level for the job is so far below the formal qualification of the employee that the work could obviously be performed by someone with a lower level of formal qualification.

This interpretation is not unconnected to the degree of formalisation of vocational training. The more institutionally standardised the qualification, the more plausible this approach appears. Applied to a rigidly segmented system such as the German one, which is divided into vocational training (non-academic) and higher vocational education (academic), this means that, on the one hand, people who have undergone vocational training – in the form of an apprenticeship, for instance – and are now in jobs for which no formal vocational qualification is required (e.g. a carpenter who works as a car-park attendant) and, on the other hand, graduates in jobs which could be done by people without higher educational qualifications (e.g. an engineering graduate working as a technician or even as a fast-food chef) are considered to be in overqualification.

As the definition shows, the important factor is the vertical dimension of occupational flexibility, not the horizontal dimension.[11] Although the latter also results in the disuse of knowledge and skills acquired during the training process (if a qualified nurse, for example, works as a medical technician), the

[10] Despite a comprehensive body of relevant American literature, this type of in-depth analysis has yet to be performed in the United States. As Hecker says, 'Currently, we do not know how many college graduates take noncollege-level jobs because of labor market supply-and-demand conditions, how many do so because their individual educational backgrounds limit their options, and how many do so through deliberate choice.' (Hecker, 1995b, p.41).

[11] On this distinction, see also Plicht et al., 1994, p.178).

type of 'skill spillage' that occurs when the training curriculum is out of alignment with the job description is considered to be inherently unavoidable when jobs are allocated to jobseekers.

It may be assumed that this form of horizontal mismatch will become increasingly commonplace as the industrial division of labour grows in complexity. Accordingly, a high incidence of horizontal mismatches in a national economy can scarcely be cited as evidence of an inefficient education system. In Germany, for example, a very high percentage of the active population state that they are not working in the occupation for which they were trained. Not least among the reasons for this is the fact that the dual system of alternating practical and theoretical training is based on a highly refined catalogue of occupational disciplines; an employee can therefore claim not to be doing the job for which he was trained even though the content of his actual job is very similar to the one in which he is qualified. Such 'skill spills', i.e. elements in the training curriculum that are not needed at work, also tend to affect every person who starts a new job.

So the decisive question is whether an employee's post could also have been filled by someone with a lower level of formal qualification, which would mean that the employee's vocational training represents a wasted personal investment, at least in part. In the case of the qualified nurse who was mentioned above, however, this situation is unlikely to obtain, since it may be assumed that she would not have obtained her post as a medical technician if she had not been trained to an equivalent standard in an associated discipline; her fellow technicians may therefore be expected to possess a similar level of qualification.

In the literature from the English-speaking world in which the terminology of employment research is coined, the terms 'overeducation' and, to a lesser extent, 'overqualification' have won acceptance as labels for the phenomenon described in this study. It should be noted, however, that in the initial phase of this discussion (see point 5.2.1 below) and even thereafter, in a few cases (see for example Dooley (1986) or Lambropoulos and Psacharopoulos (1992), who implicitly said the same thing, albeit in another context and without using the term 'overeducation') these concepts were used not only to refer to an individual in an underskilled job but also to refer in macroeconomic terms to a surfeit, or alleged surfeit, of paper qualifications in the labour market, which manifests itself, for instance, in diminishing returns from higher qualifications (cf. Rumberger, 1981c, p.294). However, other terms in frequent use, namely 'skill underutilization' (see for example Kalleberg and Sørensen, 1973, p.217, as well as Staines and Quinn, 1979, p. 8) and 'surplus schooling' (see for example B.Tsang et al., 1991), relate explicitly to the individual. The term 'mismatch' occurs occasionally; from each of the contexts in which it is used, it is clear that the mismatch is between the formal qualification level and the skill level of the job (see for example Clogg and Sullivan, 1983, p.121); now and then the term 'occupational mismatch' is also encountered (Clogg, 1979, and Sullivan, 1978). This concept, however, seems to pose semantic problems, because in the strictly literal sense it includes overskilled jobs,[12] which are irrelevant in the context of our study and which, in a different framework, would have to be regarded as overqualification.[13]

Other designations have not stood the test of time, such as 'overtraining' (Kalleberg and Sørensen, 1973) or the term 'nominal overeducation', which Halaby used (1984, p.48) and ascribed to Clogg and Shockey (1984), although

[12] Such a situation would arise, for example, if the holder of a master craftsman's certificate were the only non-graduate member of the management team of a sizeable construction company.

[13] The difference between the theoretical approaches to the phenomena of underskilled and overskilled work is reflected, for example, in the fact that the proponents of the theory of career mobility (Sicherman and Galor, 1990) explicitly state that they can only explain the persistence of overqualification, not the occurrence of underqualified activity (cf. Sicherman, 1991, pp.109-110).

this reference could not be traced. The same fate awaited the terms *Grauzonentätigkeit* ('grey-area activity'), which Schlegelmilch used in 1982, and 'inappropriateness of skills' (Tessaring, 1998). Nor could Mincer win acceptance for his proposed alternatives to 'over-education'. He criticised the tendency to confuse 'education' with 'schooling', which was only part of an individual's education, and suggested the terms 'overschooling' and 'misschooling' (Mincer, 1984, p.208).

Finally, there is surely a touch of irony in the fact that the expression 'invisible underemployment' which was quoted from the OECD terminology in the introduction to this study is conspicuous by its virtual absence from the body of literature on the subject of overqualification – *nomen est omen*!

3. Theoretical reflections on the causes of overqualification

3.1 Overqualification from the neoclassical perspective

From a neoclassical point of view, the phenomenon of overqualification, like that of unemployment, is a 'non-event'. Where overqualification occurs, the neoclassical view is that it can only be the symptom of a temporary imbalance. This opinion is expressed by the authors of earlier conventional macroeconomic studies on overqualification (see for example Freeman, 1976b).

In the longer-term adjustment process, for which, these authors believed, political support would be needed, the stiffer competition for adequately skilled jobs would lead to pay reductions at the top end of the labour market. This in turn would induce companies to adapt their production structures, the general effect of which would be an increase in demand for higher qualifications. On the supply side – always assuming perfect information – the diminishing return on higher levels of skill and qualifications would make advanced training a less attractive proposition. The demand-side adjustment would thus be reinforced by a reduction in the supply of skilled labour.

As always happens in neoclassical models, a stable balance would be restored; any remaining imbalances between the supply of skilled labour and the demand for skilled labour, which would manifest themselves in unemployment and underskilled work, would then be no more than frictional loss.

Criticism of this view begins at the same points as the familiar criticism that has been levelled at the neoclassical understanding of unemployment. Market operators seem even less likely to conform to neoclassical theory in their responses to overqualification than they do in responding to unemployment. The information gaps are even wider, which means that longer reaction times may be expected on both sides of the market. Trusting solely in the healing powers of market forces to overcome overqualification 'in the long term' therefore seems just as inadvisable as it is in the case of unemployment; Keynes' criticism of the neoclassical insistence on patience is very apt here too. As he said, 'In the long run we are all dead'.

3.2 Decision-making in the event of an individual mismatch between a person's skill profile and the job description

In the general empirical literature on the subject of overqualification, the labour-market theories referred to in point 3.3.1 below are generally cited as possible ways of explaining the phenomenon. These various approaches are then evaluated in the light of research findings to establish their empirical legitimacy. The observable degree of concurrence among all the relevant empirical studies is remarkably high.

None of the studies presented in section 4 focuses on the precept that the interests of both employers and employees must always be reconciled in any job-matching process, a precept which is very important if we are to grasp the overall picture (Franz, 1991, chapter 6). Most of the attempts to explain the persistence of overqualification that are enumerated in point 3.3.1 below are only able to explain the calculation underlying the decision taken by one side; apart from the theory of career

mobility – and even in that theory the interests of the employers' side are only implicitly assumed – there is not a single theory that can explain why the same decision is taken simultaneously by different players.

Equally scant attention is devoted in the body of empirical literature to investigation of the decision-making options of both sides in the labour market. In fact, the nature of the decision-making problem differs quite markedly between the supply and the demand side.

The employee's decision

For the employees' side, the implicit alternative to underskilled work is normally unemployment or withdrawal into the hidden reserve (for empirical evidence see Schlegelmilch, 1982 and 1983b). According to this premise, the main difference between overqualified employees and the unemployed is the former's unconditional desire for a job, what Schlegelmilch refers to as an 'I'd have done almost anything' attitude (Schlegelmilch, 1982, p.414).

It must clearly be assumed – implicitly, once again – that a person's acceptance of an underskilled job will have been preceded by a fruitless search for more suitable employment. This perspective, however, systematically obscures two other possible scenarios. Firstly, a spontaneous switch from another form of economic inactivity (that of the non-jobseeker) to overqualification is conceivable if an acceptable underskilled job offer were to materialise – an unexpected opportunity, obviously – and if that job seemed likely to benefit the individual more than continued inactivity.

It is also conceivable that underskilled work could be a genuine alternative to adequately skilled employment. This implies a 'voluntary' choice of lower job status. Teichler (1994, p.30), in a résumé of the findings of a study by Teichler et al. (1992), surprisingly reports that the majority of the academic respondents who were in underskilled posts had voluntarily chosen that employment status; Hecker (1995b, p.41) also discusses the same option in the U.S. context, though without empirically testing a hypothesis.

Such a decision could be taken, for example, if advantageous non-monetary working conditions, such as a lighter workload, a shorter journey from home to work, a job with high regional status, shorter working hours (if preferred), etc., outweighed the monetary disadvantages of an underskilled job in relation to adequately skilled employment and if income maximisation were not the basis of the jobseeker's decision (see point 3.4.3 below, where this factor is addressed in greater detail). Moreover, it might also happen, albeit more rarely, that a higher net income can be earned – at least in the short term – from overqualification than could be obtained from a well-matched job (cf. Lucas, 1977).

Although all the indicators suggest that this favourable pay differential will not be sustainable in the long run (see for example Büchel, 1994b), if the jobseeker does not possess this information or only wants to do the job for a limited time, it is entirely logical for him or her to accept an underskilled job as an alternative to more appropriate employment. There is empirical evidence of both the aforementioned types of decision in the present report.

The employer's decision

The motives behind the employer's decision almost never feature as a subject of empirical literature either. Nevertheless, this decision is quite different to that of the employee. The main alternative in empirical terms to appointing an overqualified candidate is most probably the selection of an applicant whose skills and qualifications are commensurate with the job description. This, however, presupposes the absence of restrictions on the supply side.

It is entirely conceivable, for example, that the local labour market might be unable to deliver a 'suitable' person for a particular job, i.e. one whose skills and qualifications match the job profile, perhaps because of the specific nature of the job in question. At the same time, the job might not be important enough to warrant the additional cost of casting the recruitment net beyond the local area. In this situation it would be futile to investigate the employer's motives for choosing an overqualified applicant.

This turns the spotlight onto another option that is open to employers: if there is not even an overqualified candidate for a post, or if overqualification is automatically regarded as a reason for rejection of an application, the employer may simply decide not to fill the post at all.[14]

When the empirical effectiveness of the competing attempts to explain the persistence of overqualification is assessed, due consideration must be given to the difference between the parameters governing the employer's and the employee's decisions. This means that, even if an explanatory method (based on one party's decision) proves to be especially effective, it is still only a partial analysis, and the persistence of the phenomenon will not be fully explained unless plausible explanations are found for the behaviour of the other party.

3.3 Explanatory methods based on partial analysis

3.3.1 Established methods

The explanatory methods we call 'established' here are those that have featured in empirical studies in the field of overqualification research. This, however, does not automatically imply anything about the popularity of a given method or its empirical substantiation.

The human capital theory

The human capital of employees comprises not only the certified knowledge they have acquired at schools or technical colleges but also contains other components, which are created as the employees gather work experience or which reflect their length of service with a company, for example. If these diverse components are interchangeable, it is conceivable that various people whose components are mixed in different proportions might possess an equal stock of human capital. In such a case, measuring the extent of a mismatch on the sole basis of formal qualifications would not furnish proof of inefficient skill deployment in the labour market.

This more methodological aspect of overqualification, however, only comes into play if a DOT/GED approach is adopted to measure the degree of overqualification; such an approach is not based on employees' subjective self-reported estimates but on a standard set of measures of required schooling for various occupational categories (see subsection 4.1 below). Accordingly, the human capital approach (Becker, 1964) is never used to explain the persistence of overqualification, except by Sichermann (1991), who makes a study of this aspect of the overqualification problem (p.114). Since the human capital theory may be deduced from neoclassical premises (see subsection 3.1 above), Rumberger's comment, 'overeducation does not really exist in this conception' (Rumberger, 1981b, p.24) applies to the theory of human capital too.

Nevertheless, the great versatility of the human-capital theory surfaces once again in partial analyses in the field of overqualification research when, for example, it is demonstrated in western Germany that, in the course of a career in which a person's jobs generally match his or her qualifications, transitional periods spent in overqualification result in less erosion of human capital – and hence of subsequent earning power – than equivalent periods of unemployment (see subsection 6.6 below).

The assignment theory

The assignment theory, which was established by Tinbergen (1956), following preparatory work by Roy (1951), and was further developed by Sattinger (1975), Rosen (1978), Hartog (1980, 1981a and 1981b) and Mac-

[14] It should be noted, however, that the employer's assessment at this stage is based purely on paper qualifications. This systematically ignores the role of 'soft skills', to which increasing importance is attached (see for example Blaschke, 1987). There is much evidence to suggest that such qualities – especially in the service sector – are often a necessary, though not sufficient, condition for a successful career (in the case presented here, professional expertise – normally certified by a formal qualification – would also be essential). It is not inconceivable, however, that professional expertise and 'soft skills' could be alternatives. This would mean that a job applicant's soft skills could compensate, at least in part, for a lack of professional expertise and/or paper qualifications.

Donald (1982) proceeds from the assumption that people with different skill levels are assigned to jobs with different requirement levels. Given the complexity of this allocation process, mistakes are inevitable. In other words, the phenomenon of underskilled (and overskilled) employment is inherent in an intricately structured market economy. The income effect of such mismatches is examined in assignment literature, which is able to demonstrate that the income differential arising from the discrepancy between individuals' formal qualifications and their job descriptions is exclusively incurred by neither the employer, as the job-competition model might lead us to expect, or by the employee, as the human-capital theory would suggest, but is actually divided between both parties (Hartog, 1986). Hartog shows this explicitly for a case of directly measured overqualification (Hartog, 1985a). The ratio in which this income effect is split between the two parties can also be established for Germany and other countries.[15] When the income losses incurred by each party from a mismatch are reduced, this eases the pressure on either side to avoid overqualification and makes the phenomenon all the more persistent.

Filtering, signalling and screening approaches

Filtering, signalling and screening approaches[16] all proceed in similar ways from the assumption that human capital created in formal education does not directly determine employees' pay levels. The exact future productivity of job applicants is not recognisable to a prospective employer, who faces the problem of 'hiring as investment under uncertainty' (Spence, 1973, p.356). The quality of the applicants' training certificates serves as a manifest indicator of the latent variable 'future productivity'.

This resolves the crucial problem of uncertainty or imperfect information, since candidates with a higher or more relevant educational qualification are expected to be more productive than others. The certificate only acts as a signal, a screening mechanism and a filter in the recruitment situation. Once the new recruit has started work, he or she can be extensively tested, as can the efficiency of the basis on which the recruitment decision was made, in other words the approaches we are discussing here; the effect of the certificate diminishes rapidly: 'To the extent that the employer does filter and does so accurately, the value of the college filter is reduced' (Arrow, 1973, p.215). Even if some certificates and/or their holders prove unproductive when put to the test, this will scarcely change employers' decision-making criteria, since employees with higher educational qualifications are more productive on average than their less-educated colleagues: what counts is the level of expectation. So it is not the actual human capital that yields an investment dividend but the certificate. To put it another way, the certificate, being a manifest quantity, is a tangible indicator of the holder's human capital, which, being a latent quantity, is not directly measurable – at least not in the recruitment situation; presumably these two quantities are not perfectly equal. On the basis of these premises too, the return on individual certificates may be expected to fall when the market experiences a glut of labour; nevertheless, the fact that a certificate attesting to a higher level of education is not only directly rewarded but also indirectly, because it serves as a key to skilled employment, tends to increase demand for higher qualifications within the education system, irrespective of market demand for labour.

This growing demand is further stimulated by factors extraneous to the labour market, namely the non-monetary returns to higher education, such as the accretion of social status and prestige; here too, the educational certificate serves as a signalling device.[17] If the demand for labour with the skills and

[15] See Rumberger, 1987 (United States), Daly et al., forthcoming (United States and Germany), Alba-Ramírez, 1993 (Spain) and Kiker et al., 1997 (Portugal).

[16] See Arrow, 1973; Spence, 1973 and 1974; Taubman and Wales, 1974, pp.153 ff.; Stiglitz, 1975.

[17] On this aspect of formal qualifications, see Smith, 1986, p.98.

qualifications in question cannot keep pace with this expansion, the result – once all the matched posts have been filled– will be a rise in the unemployment rate for people with higher qualifications and/or an increase in overqualification.[18]

The distinctive feature of the aforementioned approaches is that they are almost impossible to test empirically within a microeconomic framework. Although nearly all the relevant empirical studies on the subject of overqualification resort to these approaches when they advance their explanatory hypotheses, they offer no explicit test. They circumvent the measurement problem by relying on the fact that the empirical legitimacy of these approaches is generally held to be irrefutable.

This probably applies even more to European countries with sophisticated systems of vocational education than, for example, to the United States. In Germany, for instance, virtually every job offer – at least above a modest skill level – stipulates that applicants should possess a specific formal qualification. The function of the required certificate as a signal and a screening device is not altered by the fact that, in recent times, especially at the highly skilled end of the jobs market, mere evidence of vocational training is no longer enough to secure a job. Additional tests, such as those conducted in the assessment centres of large companies, seem to be a response to the appreciable weakening of the signal emitted by university degrees, for example. The implication – which may not be entirely unfounded – is that we are seeing a decline in universities' ability to measure their students' skills and to translate the results of their measurements into a valid form of certification when students complete their degree courses. The signal function of a certificate, however, is unquestionably preserved by virtue of the fact that, while it may not be a sufficient qualification in itself, in the vast majority of cases it is probably at least a *sine qua non* for the jobs for which certificate holders apply.[19]

Job-competition model

The job-competition theory is based on the premise that an individual's place in the job queue is largely determined by the nature of the underlying variable 'education'. A higher level of education – whether or not the job actually requires it – implies lower training costs for employers. It will likewise take less time and effort to familiarise individuals with a job for which they are overqualified than for one that matches their formal qualifications.

Still greater importance attaches to the training costs involved in upgrading employees' skills and qualifications. The preference is to invest in employees who, on account of their educational background, are likely to be the cheapest to train. Accordingly, it is the overqualified candidates who raise the highest expectations in terms of returns on further educational investments and who therefore stand the greatest chance of being sent on training courses; these corporate expectations and the strategy of externalising training costs to which they relate (in the case of overqualified employees, the education system has already footed a good part of the bill) put overqualified people in pole position in the labour queue, ahead of those whose qualifications match the job description; in short, overqualified people have a head start in the recruitment stakes (Thurow, 1975, pp.75ff., pp.86 *et seq.* and pp. 91 ff.).

This model is therefore able to explain an employer's motivation for preferring overqualified candidates and, by the same token, the persistence of overqualification.

An important point is that the candidates' formal qualifications only determine their position in the job queue. They do not, however, affect the income they can expect to earn; that is determined by the job description

[18] For detailed treatment of this phenomenon, see Rumberger, 1981b, pp. 25ff., as well as Tsang and Levin, 1985, p.95.

[19] See also Rippe, 1984, pp.76 ff., on this point and, for a more general analysis, Weißhuhn, 1978.

alone.[20] So all that Thurow's job-competition model directly explains is the motivation of employers to put cost and productivity considerations first and opt for the candidate with the best formal qualifications.

This does not directly explain the incentive for the candidate to accept an underskilled job, because he or she cannot expect an education premium. Indirectly, though, the desire to acquire the highest possible level of educational certificate in order to secure the best possible position in the job queue helps to perpetuate overqualification from the supply side. If overqualification is always an option, this strategy seems rational, irrespective of the structure of demand for labour. The demand for education in this case is not based on absolute expectations but is governed by the desire to secure the best possible relative position in the labour market, even at the risk of subsequent devaluation of qualifications.

The upshot of this is that people with higher qualifications are squeezing the less qualified out of the jobs they have traditionally occupied.[21] This applies at least to jobs with more than minimal skill requirements (cf. van Ours and Ridder, 1995). In this respect, the job-competition model is therefore compatible with the approaches described on the preceding pages.[22]

Rumberger writes, '[...] the model does offer an intuitively appealing interpretation of the phenomenon of overeducation' (Rumberger, 1981b, p.29); this may be the reason why this is the most frequently cited approach in the empirical literature on overqualification.

There is, however, one serious problem in relation to empirical testing, although it has surprisingly gone unmentioned in the literature that has been produced to date. This concerns the question of the type of training in which overqualified employees are expected to enjoy comparative advantages over their colleagues with well-matched jobs and less schooling. Is it initial training, when they are new to their jobs, in other words the training of recruits for their posts? Or do these advantages relate to *future* training courses to upgrade their skills and qualifications, particularly in connection with career development within the company? Thurow is not at all specific on this point.

The classic test of the job-competition model in relation to overqualification involves a comparison between the training activities undertaken by employees in underskilled jobs and those undertaken by employees in appropriate jobs (see for example Groot, 1993a and Hersch, 1995). If the validity of the initial premise is to be proved, it must be demonstrable that overqualified employees undergo less training than those whose jobs match their qualification levels, since people with better formal qualifications need shorter familiarisation periods and less training. In order to substantiate the second premise, however, we should need to arrive at the opposite result, since the greater learning capacity of the more highly educated employees will reduce training costs and therefore increase the return on investments in further training; at constant required skill levels, employees in underskilled jobs are therefore more likely to be sent for training than their less-educated colleagues whose jobs and qualifications are well matched.

There are several reasons why the second interpretation appears more credible. In very undemanding jobs, which would be underskilled for any employee, familiarisation normally takes the form of learning by doing. At least in European surveys, however, most of the training reported by overqualified respondents is formal in nature. If this line of argument is pursued, the training activities reported in surveys must relate primarily to further training designed to upgrade skills and qualifications. Such an interpretation also draws an analogy with the theory of ca-

[20] The same applies to non-monetary returns (see von Henninges, 1996, p.81).

[21] For a more detailed treatment of this point, see Rumberger, 1981b, pp.27 ff., as well as Tsang and Levin, 1985, p.95).

[22] For a more extensive discussion of this aspect, including employers' productivity considerations, see point 2.3.4 above.

reer mobility (see below). This not only concerns the employer's motivation but also that of the employee: the prospect of being at the front of the queue for further training and thus of achieving at least limited promotion is likely to increase a jobseeker's willingness to accept overqualification.

The job-matching theory

The theory of job-matching, which was developed in the 1970s, may be loosely divided into two types of model. In the first category, jobs are understood as 'pure search goods'. Information about an alternative job, in which an employee's qualifications and the job description are likely to be more closely matched, is obtainable at all times. If such an alternative is available elsewhere, the employee will switch companies (Burdett, 1978; Jovanovic, 1979a; Mortensen, 1988). In the second category of model, jobs are interpreted as 'experience goods': 'That is, the only way to determine the quality of a particular match is to form the match and "experience it"' (Jovanovic, 1979b, p.973, quoting from Nelson, 1970; for studies on this type of model, see Johnson, 1978; Jovanovic, 1979b; Topel and Ward, 1992).

Length of service with one company is traditionally regarded as a suitable indicator of the quality of a match: 'Job tenure is my (match) quality indicator under the assumption that "good matches endure"' (Bowlus, 1995, p.336; for analogous rationalisation, see for example Schasse, 1991, and Topel and Ward, 1992). The assumption is that a mismatch will be identified relatively quickly by one of the parties, and the employment contract will be terminated. A good match, on the other hand, benefits both sides, and the contract will therefore last longer.

In the context of the present study, it seems logical to measure the quality of the match directly by reference to the correlation between qualifications and job descriptions. Employment in a job that is commensurate with one's level of training is obviously more likely to prove a good match than overqualification. Accordingly, the 'experience-goods' variant of the job-matching theory is able to explain the persistence of overqualification on the basis that, on the one hand, employees need a certain amount of time in the initial phase of their careers to find a 'good' match. Employers, on the other hand, do not respond quickly enough – if at all – to mismatches, sometimes because of a risk-avoidance strategy based on the precept that 'a bird in the hand is worth two in the bush', and therefore miss the opportunity to test whether the employee's skills are better matched to the requirements of a different job and hence the chance of improving their company's overall efficiency.

In the empirical studies on overqualification, the job-matching theory is only used on the odd occasion as a means of explaining the phenomenon. Sicherman (1991) uses it implicitly in testing his career mobility model: 'Overeducation might be an indication for a bad match in the sense that the worker's education might qualify him for a better-paying job. In such a case, it is likely that eventually the worker will change his job, that is, his occupation, firm, or both' (p.105). Sicherman tests it explicitly when he compares the job tenure of employees whose job descriptions are commensurate with their qualifications and those who are overqualified for their jobs. His finding that mismatched employees have shorter job tenures (p.106) is hardly surprising. To the extent, however, that a short stay with a company is a traditional indicator of a mismatch, as was mentioned above, this test is tautological in a sense; the best it can do is to verify the validity of the mismatch indicator selected by the job-matching theorists, namely job tenure.

Alba-Ramírez (1993) chooses a more effective test. He not only uses the duration of jobs, which can be observed longitudinally, but also has recourse to the employee's earlier career history. He examines the connection between the average duration of all previous jobs and the current job match. The analysis is extended to include two further partial indicators: whether the employee has ever changed firms and whether the employee has more than five years of seniority in his or her current job. On this basis, Alba-Ramírez likewise finds empirical evidence to validate the theory.

300

There are, however, two weak spots in this train of thought. The first is that Alba-Ramírez is only able to use prior work experience, a 'potential' measure; this is likely to cause serious reliability problems, especially in the case of older working women. The second is that he includes in the calculation the employee's seniority in his or her present job, which is a piece of right-censored data at the time of observation. Where employees have only had their present jobs for a short time, moreover, it will not yet be possible to establish a valid correlation between job duration and match quality.[23]

In the present study, we intend to test the empirical evidence for the 'experience-goods' version of the job-matching approach even more explicitly.

The expectation raised by the theory is clearly that the match between the demands of the job and the worker's skills and qualifications will be all the more perfect the older and more experienced an employee is (Franz, 1991, p.203).

Although the argument that 'older and more experienced' employees stand a better chance of being in a well-matched job by virtue of the progressive improvement in their ability to assess their own career prospects is certainly plausible, it does raise the question of the validity of the personal attributes cited by Franz. Merely growing older is obviously not enough in itself. The second attribute, increasing experience, certainly seems to be more serviceable. If experience is not intended to be synonymous with age, it is plainly not experience of life but occupational experience that is meant here. The theory does not suggest that occupational experience, which in this context means the knowledge accumulated by the employee about his or her productive capacity and the uses to which it can be put in the labour market, is likely to increase through continuous employment in one and the same job but only through a process of trial and error in various jobs with several different employers.

For this reason, it seems advisable to regard the frequency of job moves as a direct measure of occupational experience in empirical tests.[24] This would be used to check whether an increase in the number of career moves actually reduces the probability of a subsequent mismatch between formal qualification and job requirements. A specific test (Büchel, 1998b, p.139) demonstrates that – contrary to theoretical expectations – overqualified employees have a record of considerably greater career mobility than those in jobs that match their level of training. This finding does more to prove the plausibility of the segmentation approach (see below), which predicts weak company attachment among employees in undemanding jobs.

Career mobility theory

The theory of career mobility, developed by Sicherman and Galor (1990) on the basis of Rosen's groundwork (1972), postulates that the return on investments in higher levels of education not only manifests itself in higher starting pay but also in better prospects of promotion within a company or of an upward move to another company. In other words, it focuses on income development over a period of time and may be regarded as a refinement of the human-capital theory. If tests control for required skill levels, promotion prospects will increase with rising education levels.

One proposition ('Corollary 2') is as follows: 'Individuals may choose an entry level in which the direct returns to schooling are lower than those in other feasible entry levels if the effect of schooling on the probability of pro-

[23] Alba-Ramírez, like Sicherman (1991), establishes a strong positive correlation between job tenure and match quality (pp.272-273).

[24] Even within the work of individual authors, this configuration is presented in different ways and hence inconsistently. Hersch (1991), for example, rightly speaks of employees who 'move into better matching jobs' (p.144), which they clearly cannot do unless they make a change (such as obtaining promotion within a company or moving to another company), whereas Hersch (1995) refers generally to 'previous work experience' (p.620), which is measured in total years of employment.

motion is higher in this entry level' (Sicherman and Galor, 1990, p.177).

Sicherman (1991) operationalises this sort of promotion as both a 'move to higher-level occupation' and the attainment of a 'higher wage level' (p.109). A motive for accepting an underskilled job can be deduced from the above hypothesis: '[...] it will be rational for some individuals to spend a portion of their working careers in occupations that require a lower level of schooling than they have acquired. This observation can serve as a partial explanation for the phenomenon of "overeducation" (Sicherman and Galor, 1990, pp.177-178; cf. Sicherman, 1987). The higher the probability of promotion, however, the greater is the possibility that the employee will quit if promotion is not approved; this is the other proposition ('Corollary 1') of the career mobility theory (see Sicherman and Galor, 1990, p.176).

The appeal of the career mobility theory does not derive solely from its high degree of plausibility but also from the fact that – unusually – it can explain both parties' motivation for accepting an individual job/education mismatch by means of the same approach.

Employees forego part of what they could be earning now in exchange for a favoured position in the promotion queue, thereby investing in increased future earning power. If, after some time in the job, they feel that their employer has reneged on the deal, their only option is to move to another company.

For employers this arrangement is enticing in the sense that it gives them an opportunity to 'test' new recruits, whose high level of qualification predestines them for managerial functions, at a reduced rate of pay over a certain period of time. There is something of an analogy between this and the training process under the German *Duales System* of alternating classroom and workplace training, in which the company with which a trainee has been working decides at the end of the training course whether to offer the trainee an employment contract, in other words to 'promote' him or her to the status of a skilled worker. A comparable configuration is becoming increasingly commonplace in the academic world, whereby individuals are not appointed to traditional academic posts until they have completed a traineeship in the institution in question.[25] The 'course fee' that the trainee is implicitly expected to pay for his or her on-the-job training thus assumes the nature of an investment.

In a subsequent study, Sicherman (1991) went back to the test of the theory developed in Sicherman and Galor (1990) and tailored it explicitly to the phenomenon of overqualification. He found clear evidence, which is hardly surprising, of the validity of the career mobility theory he helped to construct. Employees in underskilled jobs, he established, are younger than those in well-matched jobs, have a higher rate of internal promotion and switch companies more often.

Alba-Ramírez (1993) arrives at similar results. The problem with the approach adopted in both studies, however, is that, in comparing employees in underskilled and well-matched jobs, they operate with a constant level of formal qualification but different levels of skill requirement. If the structures they identify correlate highly with job levels, the findings will inevitably be misinterpreted, because a causal link will be imputed between the various identified effects and the job/education mismatch, although it is possible that the differences between the two groups are entirely due to the fact that the members of one group have more demanding jobs than those of the other group.

In a test the author conducted on this theory (Büchel, 1998b, pp.140 ff.), allowance was made for this possibility by ensuring that, once the conventional qualification-based test had been completed, the effect of overqualification was only investigated for certain jobs which were as homogeneous as possible in terms of required skill levels. The test shows first of all that there is no significant differ-

[25] 'Evidently, in many companies, an employee's precise job is not determined until he or she has successfully completed the traineeship programme' (iwd, 1994b, p.5).

ence between the promotion prospects of overqualified employees and those of adequately educated employees. Secondly, on the basis of the same investigative strategy, the test actually did indicate a negative correlation between the internal promotion of an overqualified employee and the probability of that employee leaving the company, just as the theory predicts, but it also demonstrated the same phenomenon for adequately educated employees. These findings clearly do not deliver a resounding endorsement of the career mobility theory.

In a more extensive test by Büchel and Mertens (2000, and forthcoming), the Sicherman (1991) findings are replicated with German data (full-time male employees in western Germany) – with the required skill level again being held constant. This test actually demonstrates a higher probability of promotion into an occupational group with a greater mass of human capital for overqualified employees than for those with adequate education. This also applies if we pursue the approach adopted by Robst (1995a), who analyses changes in occupational status rather than transfers from one occupational group to another. It has been demonstrated, however, that these findings largely derive from blurred distinctions between categories of occupational status. If changes in income are examined instead, and if the test controls for the base effect (income in the base year), it emerges that overqualified employees experience less wage growth than their adequately educated colleagues. This finding is consistent with that of the sociological studies which have established a link between better job/education matches and brighter career prospects (see for example Sørensen, 1977, and Spilerman and Lunde, 1991, p.716). This is another finding which undermines the attempt made in Sicherman (1991) to apply the theory of career mobility to the phenomenon of overqualification.

The theory of differential overqualification

A remarkable theoretical approach to the explanation of a greater risk of mismatch between formal qualification and job requirements for married women in restricted markets was developed by Frank (1978b; see also Frank, 1978a). He criticised the fact that the difference in the incidence of mismatches between male and female employees had always been ascribed to the personal characteristics of men and women (see for example Gwartney, 1970, Cohen, 1971, and Fuchs, 1971) and that the residual variance had been rather feebly explained away as 'discrimination' (see for example Oaxaca, 1973).

A theory of differential overqualification may be outlined as follows. The starting point is an income-maximising jobseeker. The expected rate of pay is governed by the skill level of the job alone, like the expectations in the job-competition model and the production theory (Frank, 1978b, p.362).

If 'qualification' is defined very broadly, jobseekers are, to a certain extent, overqualified for every job for which they are eligible to apply, since they will always possess certain knowledge that is never used in the performance of their duties. This overqualification gives rise to a wage deduction from the 'optimum' (purely education-dependent) income which would be obtained if a perfect match were to be made (p.362). The economically rational strategy for a single individual is therefore simple: the individual identifies that vacancy in the market system for which he or she is least overqualified. The sampling distribution of the degree of qualification depends on the total number of vacancies in all markets combined;[26] this follows from the fact that the mobility of an individual within his or her own region is not restricted.[27] The expected degree of overqualification (and hence loss of pay) for the single searcher approaches zero as the total number of vacancies in all markets approaches infinity.

In the case of married couples, the search problem is considerably more complex. Assuming an inclination towards paid employ-

[26] On the concept of local labour markets, see for example Topel, 1986.

[27] Frank chooses not to include transaction costs in the calculation underlying a migration decision.

ment on the part of both spouses, their aim would be to maximise the joint income. Because of the formal basis of the spouses' respective rates of pay, it is not possible simply to find the lowest possible degree of combined overqualification; consideration must also be given to the spouses' education levels, which may differ (pp.363-364). The optimisation process is further complicated by the assumed condition that both spouses will have to find work in the same local job market. Four general properties of the expectations with regard to a married couple are identified (pp.364-365):

i) The expected amount of the added overqualification degrees of a searching couple will exceed the expected degree of overqualification for a single searcher.

ii) The expected degree of overqualification of a husband will be lower than that of his wife, if his qualification is higher than her's (and vice versa).

iii) The expected degrees of overqualification for both partners will approach zero as the total number of vacancies in the market system approaches infinity.

iv) The expected degrees of overqualification for couples are not, as in the single-worker case, independent of the distribution of vacancies across local labour markets. The expected degrees of overqualification increase as vacancies are more evenly distributed across local labour markets – always assuming that migration is a possibility for the couple.

In this dilemma, the sheer complexity of which will overwhelm any couples trying to maximise their household income, Frank (1978b) says that the husband takes the initiative and acts in accordance with a 'male chauvinist family location decision rule' (p.364). He begins by seeking the best possible job for himself once he has performed the simple task of identifying the vacancy for which he is least overqualified (see above); in so doing, he also determines the local labour market in which both spouses will work. Once this decision has been taken, the wife conducts her own individual search to find the best possible job for herself within that market.

Assuming that the couple are entirely free to migrate, the crucial point is that the husband is clearly able to conduct his search across the whole range of local markets, in other words to apply for any suitable job vacancy in any market. The wife's subsequent search, however, is restricted to the local job market selected by the man. Since the number of job vacancies in the local market is smaller – very much smaller – than in the global market, the wife may logically be expected to find a poorer match. This disadvantage will surely be all the greater if the husband finds his optimum job in a small local market.

The disadvantaged position of married women may be reflected in either of two ways. If the woman is unable to take up a more attractive job offer at another location because her husband has already found his optimum job locally and is not prepared to move, she is a 'tied stayer' (Mincer, 1978). If, on the other hand, the man has decided to accept a lucrative job offer far away from the couple's present home, his wife is compelled to move with him, irrespective of the quality of her current job or her employment prospects at the new place of residence; she is a 'tied mover'. So whereas marriage tends to enhance a man's status in the labour market,[28] the opposite may be expected to apply to women.

A high degree of empirical plausibility makes this another persuasive theoretical approach. It does not even rely on the assumption that the man will adopt an irrational 'macho' stance to establish the family location against the interests of his partner. Since, in terms of the whole population, the average level of formal qualification for husbands is always observably higher than that of wives, and since married women work fewer hours on average than married men, the use of the 'male chauvinist family location decision rule' should generally be rational too, given the aim of

[28] For a summary of the various reasons for this, see Cornwell and Rupert, 1997.

maximising the total household income – especially as it seems impossible to fully reconcile both sides' interests, not only because of the mathematical complexity of the decision-making operation but also because of crucial information gaps.

When Frank tested the theory (Frank, 1978b), the test was not explicitly tailored to overqualification but took the form of an income analysis.[29] Studies have traditionally focused on the 'tied stayer' variant, presumably because of data limitations.

An income-based analysis, however, raises significant methodological problems. If an unequivocal causal link is to be established between the phenomenon of differential overqualification and income differentials, it will be necessary to control for those income-level variations between larger and smaller local labour markets (the usual distinction is between municipal and regional markets) which are not productivity-dependent. Such variations include, for example, local weighting allowances designed to compensate for higher housing costs. In addition, there would be a need to control for differences between municipal and regional occupational structures, for instance by including several hundred occupational dummies in the income estimates. None of the studies that have appeared to date have come up with a satisfactory solution to this problem.

A less complex approach can be adopted if the examination of relative incomes (which are only used, after all, as indicators of the job/education mismatch that this theory studies) is replaced by direct examination of the mismatch, which might be done by measuring the degree of under- or overqualification. The only example of this line of enquiry is found in McGoldrick and Robst (1996),[30] who concluded that there was no empirical evidence to support the theory of differential overqualification, since the dummy variables they incorporated to denote different sizes of region did not have a significant effect in the model used to establish whether the probability of a married women being overqualified for her job was greater in smaller than in larger markets (p.282).

This test was reproduced in Büchel, 1998b, p.143 ff.[31] The author's study was also the first to include tied movers in such a test. It also took heed of the criticism made by McGoldrick and Robst (1996) that the number of job vacancies was an inadequate indicator of the shortage of jobs since it did not take account of the number of people seeking those jobs; a more suitable measure of the 'tightness' of the labour market, they said, would be the regional unemployment rate. At the same time, for the sake of greater validity, this test included not only married couples but cohabiting couples too; married people not living together, on the other hand, were treated as single.

Like its predecessors, this study had to adopt an implicitly assumed correlative trend between the number of job vacancies, the total number of jobs and the population of the place of residence when it tested the theory, although it also controlled for the regional unemployment rate (see above). The problem of equating the place of residence with the job location can, however, be overcome by at least a proxy construction which controls for the distance from home to work.

The study demonstrated that married women in rural areas actually do register a significantly above-average overqualification rate if – and only if – an estimated distance from home to work is taken into consideration. This high-risk group can therefore avoid the overqualification syndrome if they commute into larger urban areas. However, where married women living in sparsely populated areas are unable or unwilling to commute, the probability that they will not find a well-

[29] For similar approaches, see Topel, 1986, and Ofek and Merrill, 1997.

[30] Teichler (1994), who focuses on Germany, identifies academics who have 'voluntarily' chosen underemployment in preference to a more appropriate post because they wanted to be close to their partner (p.30).

[31] See also Büchel, 1999d, and Büchel (forthcoming).

matched job in the vicinity of their home is atypically high. This finding accords with the expectations of the theory.

The job-search theory

The basic assumption of the job-search theory (Stigler, 1961)[32] is that jobseekers adopt a search strategy which will maximise their potential lifetime earnings. In the basic model of the theory, which has subsequently been extended in many different ways, it is assumed that, from a density function of wage offers, postulated as a known quantity, the jobseeker chooses the number of offers that will optimise the job search process. Once this chosen number of job offers has been reached, the jobseeker will select the highest wage on offer. The longer the jobseeker waits, the greater his or her chance of receiving an even higher wage offer. However, the longer the duration of the job search, which equates to a period of unemployment, the higher the cost to the jobseeker, not only in terms of higher direct expenditure arising from job applications but also in terms of opportunity costs, in other words the income the jobseeker has foregone in order to wait for a better offer, minus any unemployment benefit he or she might have received in the interim period. There is also a danger that acquired skills will become increasingly obsolete during that period.

As the job search goes on, the jobseeker's target wage may be expected to decrease, since the time limit on a person's working life will compel the jobseeker to operated within a restricted time frame. The longer the search for work lasts, the less will remain of the jobseeker's working life. After the wage level, this is the second decisive parameter governing the maximisation of lifetime earnings. The job search is maximised if the marginal cost of seeking a job is matched by the marginal increase in future earnings.

The expected decrease in the target wage as the off-the-job search continues may mean that the job-search theory can help to explain why people accept underskilled jobs, because a lower wage is likely to equate with a lower required skill level, for which the jobseeker will often be overqualified. The findings contained in Büchel (1992), for example, show that a high percentage of skilled workers in West Germany can only escape from a lengthy spell of unemployment by accepting jobs in which their specialised skills are not required.

It may therefore come as a surprise to discover that, in the existing body of literature on overqualification, the job-search theory is hardly ever cited as a means of explaining the phenomenon. One implicit exception is Patrinos (1995), who explains the acceptance of overqualification as a response to abnormally heavy pressure to find work but generally focuses on the economic resources at the disposal of jobseekers.

With regard to the serviceability of the job-search theory in the context of overqualification, however, it should be noted that the theory can only explain the temporary, short-term occurrence of overqualification, since it explicitly relates to off-the-job searches only. The theory is therefore unable to explain why overqualified people, having taken undemanding jobs, are then unsuccessful in their on-the-job search for a better job, which in this context would mean a job that is commensurate with their qualifications (on this expectation, see Rosenfeld, 1992). Hence, since the theory can only explain mismatches caused by frictional loss, it is not capable of explaining the persistence of a high percentage of overqualified employees in the labour force.

3.3.2 Unorthodox approaches

Rumberger (1981, pp.29ff.) speaks of two unorthodox approaches to the explanation of persistent overqualification. One of these is the segmentation approach, and the other is a 'radical' approach; in American terminology in this field, 'radical' stands for 'Marxist'.

Segmentation approach

The segmentation approach rejects the homogeneous neoclassical model of the labour mar-

[32] For a review of the most important refinements of this theory, see Lippman and McCall, 1976 a, b.

ket as unrealistic and postulates the existence of labour-market segments in which widely disparate working conditions obtain. The assignment of labour to these market segments is decided by employers on the basis of a 'discriminatory' weighting of individual screening indicators, such as formal qualification; it is asserted that opportunities to move from one segment to another are extremely limited.

In the original model presented by Doeringer and Piore (1971), the basic assumption was that the U.S. labour market is essentially a dual market. The primary market is chiefly reserved for the traditional core workforces, and jobs in that market are characterised by high wages, employment stability and good career prospects. In a secondary or peripheral labour market with unskilled, poorly remunerated and insecure jobs, employers recruit their fringe workforces in times of prosperity; when cyclical downturns come along these fringe workers can be fairly easily offloaded with minimal transaction costs, because they are loosely attached to the company, which has accordingly invested little in the development of their human capital[33].

This simple methodological concept has proved to be highly resilient. Individual refinements, such as attempts to take account of regional characteristics, have seldom gained general currency. In the West German labour market, for example, Lutz and Sengenberger (1974) claimed to have identified a separate segment of the 'specialised labour market' which was characterised by insecure conditions of employment for skilled workers with good formal qualifications. This regional distinction was intended to take account of the fact that the Federal Republic of Germany, unlike the United States, had an established system of alternating on-the-job and theoretical training.

This distinction, however, is open to criticism on the grounds that every job requires a certain degree of skill, however minimal. Why successful completion of an apprenticeship, of all things, should be used as the decisive skill-categorisation criterion largely defies logic. The skill level required for a job is traditionally operationalised on the basis of the wage paid for that job, a variable that is hardly likely to be governed by 'natural' thresholds such as the difference between the wage of an unskilled or semi-skilled worker and that of a skilled worker. The infinite array of criteria that could be selected to distinguish between segments of the labour market and the resulting diversity of typological segmentation, which could hardly stand up to a validity test, have already come in for criticism from several sources, and rightly so (cf. Blien, 1986, p.147).

The segmentation approach does help to explain the persistence of overqualification in conjunction with the screening approach and the job-competition model. If all suitable jobs in the primary segment of the labour market are initially occupied, jobseekers who are less well equipped to withstand the screening devices (applicants with lower pass grades where formal qualification is the screening device, for example) have to settle for jobs in the peripheral segment. Since the boundary between the segments tends to be impervious, the result is a state-dependence effect, whereby the fact that a person works in the peripheral segment becomes a further negative screening device (see also Rumberger, 1981b, p.32).

Neubäumer, 1993 (see also Neubäumer, 1997, and forthcoming), adds a noteworthy dimension to conventional consideration of market segmentation in the present context by postulating the segmentation not only of the labour market but also the market in course places within the system of vocational training. In those occupations and industries where training and working conditions are poor (e.g. for hairdressers), training is provided in excess of requirements – not only because the cost-benefit ratio of training is especially favourable to employers in these areas of activity but also – and this is the nub of Neubäumer's argument – as a means of coping with the loss of the best trainees, who move upmarket when they have served their apprenticeship. Because even the training

[33] For an overview, see Cain, 1976.

market is segmented, the less gifted applicants for training places, even though they are aware of the aforementioned situation, are compelled to accept training places in the peripheral segment of the training market. In so doing, they are also running the risk, once they have completed their course, of neither finding an appropriate job in the occupation for which they have trained nor of moving into a better segment of the market (assuming they are prepared to switch to another occupation). In such circumstances, their only alternative is often to settle for a relatively menial job.

Because its underlying hypothesis possesses a certain plausibility, the popularity of the segmentation approach remains undiminished. In very specific areas of the labour market, it is certainly possible to observe structures that are consistent with the propositions of the segmentation approach (see for example Büchel, 1994a). Economics-based analyses of overqualification, however, rarely have recourse to the segmentation approach. One reason may be that the approach cannot be built on theoretically self-contained foundations. The propositions of the segmentation approach can be easily constructed in a partially analytical manner on the basis of hypotheses deriving from various microeconomic theories, such as the screening approach or the job-competition model[34] – but this also means that supposedly 'segmented' structures in the labour market can be explained in economic terms without recourse to the segmentation approach.

The Marxist dialectical approach

From a Marxist perspective, the incidence of overqualification on a large scale serves the interests of capital. The phenomenon therefore performs a similar structural function to mass unemployment, in that overqualified employees are regarded as a reserve army whose members could easily be reactivated (i.e. drafted into more demanding jobs) if the need arose. As this reserve of skills grows in size, the labour force comes under increasing pressure to 'toe the line', while wages are subject to downward pressure (for more precise details, see Rumberger, 1981b, pp.32 ff.; for a brief outline, see Levin, 1995, pp. 14-15). The systematic overproduction of qualifications in the education system (which can be manipulated by the capitalists in a capitalist state monopoly) therefore serves the purpose of systematically weakening the working class in the never-ending class conflict (cf. Bowles and Gintis, 1976, quoted in Rumberger, 1981b, p.35).

This view, however, is invalidated by the fact that the systematic expansion of education provision and the associated desire for an end to elitist educational privilege for the upper classes were being consistently advocated in the sixties by supporters of the far Left too.

Even as recently as the mid-eighties, voices in West Germany were calling for the problem of the overqualification of highly qualified labour and the question of the whereabouts and professional situation of university and college graduates to be 'addressed in terms of class theory' (Krais, 1983, p.36).

Although there are unmistakable signs in some European countries that employers may indeed be deriving certain benefits from the current mass unemployment, such as the resultant erosion of trade-union power, this alone is scarcely able to explain satisfactorily why the phenomena of unemployment and overqualification are so persistent. A disinclination on the part of employers to take effective action to eliminate such inefficient deployment of human capital, even if such an assessment could be substantiated, would be easily explicable within the framework of an empirical analytical theory, because it is no more than economically rational behaviour. A connection between overqualification and class conflict seems to be even more spurious.

The Marxist dialectic approach to economics has, of course, lost much of its appeal over the last few years. The sole purpose of describing it here is to ensure that all the relevant theories are chronicled in this literature survey for the sake of completeness.

[34] See for example Hartog, 1985a, p.281.

3.4 Extraneous conditions

3.4.1 Institutional regulation

The methods based on partial analysis which are used to explain the persistence of overqualification and which were outlined in point 3.3.1 above are abstracted from the conditions imposed by the institutional framework. In addition to the indirect effect of these conditions, it is likely that their practical application will have a direct impact too. In the countries of Europe with their highly developed welfare systems and their traditionally high degree of corporatism, such conditions will probably have a far greater effect than, for example, in the United States, where most of the aforementioned approaches were developed. Remarkably, scarcely any of the relevant empirical works examine this aspect of overqualification.[35]

One important factor in people's willingness to accept overqualification is likely to be the differential between the rate of unemployment benefit or, alternatively, social security and the rate of pay for underskilled (normally simple) work. This brings two regulatory arrangements into play – minimum wages secured by the trade unions and the rate of unemployment benefit and social security payments set by the government. In recent times, as the 'jobs miracle' has unfolded in the United States, more and more voices in a number of European countries have been criticising the excessively narrow gap between the minimum wage and welfare benefits. As the gap narrows, the volume of overqualification may be expected to fall, because – in the eyes of many jobseekers – the reward for economic activity is not the pay itself but only the amount by which the wage exceeds the rate of welfare benefit. It does not 'pay', in other words, to take a cheap job.

The employment authorities are trying to counteract these calculations by enforcing the statutory criteria by which a reasonable job offer is defined. As these criteria become increasingly rigid, sometimes even compelling an unemployed individual to chose between underskilled work and loss of benefits, we may expect the percentage of overqualified employees to rise.

In Germany, for instance, these criteria have recently been considerably tightened in response to the sustained rise in unemployment. Staff directive 30/90 of the Federal Employment Services (*Bundesanstalt für Arbeit*), dated 19 March 1990, rescinded one of the provisions of staff directive 100/82 of 13April1982, which laid down that placement in employment at a lower skill level should only be effected if, despite adequate and appropriate efforts to fill the post in question over a period normally lasting three weeks, no jobseeker with the required lower skill level could be recruited.

On 1 April 1997, the new section 103b of the Promotion of Employment Act (*Arbeitsförderungsgesetz*) entered into force, drastically curtailing once more the right of unemployed people to reject job offers. In the first three months of unemployment, offers of jobs paying up to 20% less than the jobseeker's previous employment are classed as reasonable offers, and in the following three months this figure rises to 30%; from the start of the seventh month, a job offer is considered reasonable if the net wage (minus necessary employment-related expenditure) is at least equal to the rate of unemployment benefit (paragraph 3); in the case of full-time work, commuting times of up to three hours per day are considered reasonable (paragraph 4), as are temporary separation of spouses and '*Occupations [...] for which the employee is or is not trained* or which he or she has or has not previously pursued' (paragraph 5 (my italics); see Federal Law Gazette (*Bundesgesetzblatt*) 1997/I, No 20 of 27 March 1997, p.700). Although these rules seem highly restrictive at first sight, the German welfare system is still relatively generous by international standards; in the United States, for example, entitlement to unemployment benefit is subject to the strict proviso that any available job offer – normally at the minimum wage – must be accepted.

[35] Tsang and Levin (1985, p.101) and Rumberger (1981b, pp.124-125) are exceptions, although their propositions are couched in very general terms.

It is evident that curtailing the right to reject job offers will not of itself influence the percentage of jobs that are occupied by overqualified people. The impact of such a measure will very much depend on the way in which jobcentres apply the relevant legislation. In Germany, for example, there are some grounds for assuming that, even before the latest amendment of the Employment of Promotion Act, the criteria for the definition of reasonable work,[36] which were already rigorously formulated, were not applied very consistently.

Some evidence for this allegation may be derived from the fact that labour offices rarely order the suspension of benefits for rejection of a job offer under section 119(1)(2) to (1)(4) of the Promotion of Employment Act (see for example the official bulletin (ANBA) of the Federal Employment Services, issue No 7/1997, *Übersichten* II, 7/8, pp.1042-3). This finding may indicate that very few offers of underskilled work have been rejected in practice, which would point to the efficiency of the strict criteria for the definition of reasonable job offers. But if this is the case, at a time when it is difficult to place jobseekers, the rising level of unemployment should be accompanied by a parallel rise in the percentage of jobs occupied by overqualified employees; this, however, is not borne out by the available empirical data (see Büchel and Weißhuhn, 1997a and 1998).

The formulation of statutory provisions governing protection against dismissal may be cited as another institutionally imposed condition that influences the volume of overqualification. In this domain too, there are great differences between many European countries and the United States, for example. It is conceivable, for instance, that an overqualified employee whose company wishes to offload him for productivity reasons has no prospect of finding a job commensurate with his level of training and that he therefore invokes his right to protection against dismissal. In the United States, he could expect dismissal and a place in the dole queue, but in countries with sophisticated systems of statutory protection against dismissal, such systems tend to increase the overqualified percentage of the active labour force.

Another institutional condition which probably has a considerable impact on the percentage of jobs occupied by overqualified employees is the funding structure of the various component parts of the education system. Higher education in Germany, for example, is largely state-funded, which is not the case in other countries. The external effects of this funding structure grossly distort the situation in the education market and are liable to produce a steady flow of overqualified graduates. While the acquisition of educational qualifications at prices 'below the market rate' amounts to rational behaviour in the eyes of the individual, since, given the current imbalance between supply and demand, highly qualified jobseekers are still in pole position in the labour market, in terms of the national economy it generates an excess demand for education.

Besides the conditions enumerated above, there are a host of other governmental or semi-governmental regulatory mechanisms which can directly affect the qualification structure of the labour force and hence, *ceteris paribus*, the percentage of overqualified employees. These mechanisms include the setting of quality standards in the education system, the formulation of rules governing scholarships and student grants and so forth.[37] A detailed discussion of every conceivable contributing factor would be an unnecessary digression in the present context; the sole purpose of this part of the study has been to draw attention to the potential impact of the basic conditions in which the employment structure operates.

[36] See section 1, and more especially section 2(3) of the administrative order issued by the Federal Employment Services (*Bundesanstalt für Arbeit*) in Nuremberg on 16 March 1982 concerning assessment of the reasonableness of a job offer (*Zumutbarkeits-Anordnung* – documented in the special issue of ANBA, dated 15 April 1982). The author wishes to thank Mr Reichel of the Federal Employment Services for putting together the relevant documentation.

[37] See for example Keller, 1997, and Marsden, 1997, on the effects of deregulation.

3.4.2 The production structure and conditions in the labour market

The changes that the production structure undergoes in the course of time – as a result of technological progress, for example – can have a direct effect on the overqualified percentage of the labour force. For example, the incidence of underskilled jobs may be expected to rise if qualifications which were once in demand in the labour market (and were therefore produced by the education system) have been devalued over a period of time as the conditions of production have changed. A classic example of this would be the training of blacksmiths. In addition, job descriptions and skill profiles for particular occupations may change so dramatically with the passage of time that even those employees whose qualifications originally matched their job requirements will eventually come to realise that they are no longer qualified to do their job by present-day standards. Such a development is observable in journalism, for example. While it is conceivable that further training could update employees' skill and qualification levels, horizontal effects, which are not the subject of the present study, are likely to prove more significant than vertical effects. Irrespective of their empirical significance, however, such structural effects are possible and should therefore be investigated as a means of explaining the occurrence of overqualification.

The findings contained in Büchel (1998b, Table 5.16, p.216), however, show that this is not the most common route to overqualification. These findings, which were controlled for a number of variables – several socio-economic characteristics of the employee sample and general economic conditions – reveal that overqualification is immediately preceded by unemployment, by full-time training and by voluntary economic inactivity far more frequently than by adequately skilled employment.[38]

Besides the aforementioned structural changes that take place over a lengthy period, more rapid changes in conditions within the labour market might also conceivably influence the overall balance between the skill profiles of jobs and those of their incumbents. It may be expected, for example, that contractions and expansions of the labour market which result from cyclical or seasonal fluctuations will directly affect the probability of individuals being compelled to accept overqualification, not least on the basis of the hypothesis that overqualification is a direct alternative to unemployment in many cases. Büchel and Weißhuhn (1998) cite actual evidence of dependence – and inverse dependence – of the aggregate growth of unemployment on the level of overqualification.

3.4.3 Employees' utility preferences

The theoretical approaches discussed in point 3.3.1 above all assume behaviour patterns based on income maximisation. If this assumption is set aside and utility maximisation takes the place of income maximisation, new factors come to light – factors which are relevant in the context of overqualification.

In the typical dichotomy between unemployment and overqualification, leisure time[39] plays a key role as a preference in a conventional assessment of the utility of a job offer. A change in the importance attached to leisure time, for example as part of a general shift in social values or as a regionally (as opposed to nationally, for example) conditioned reassessment of leisure time in Europe will therefore directly affect the percentage of jobs occupied by overqualified employees. The linkage is likely to be even less elastic with unemployment as the alternative than with the conventional alternative of a form of economic inactivity other than unemployment, since the 'distorting' base effect of unemployment benefit has to be taken into account.

[38] The most common access route is from unemployment, followed by full-time training, with voluntary inactivity in third place.

[39] It may seem euphemistic to refer to a period of unemployment as 'leisure time' but is nevertheless based on specialised usage.

As for the alternative status of employment commensurate with qualification level, which has been largely neglected in the discussion of the phenomenon of overqualification (see subsection 3.2 above), the connections between utility preferences and the decision to be taken are presumably even more intricate. Individuals who are not out to maximise their income have to assess a complex set of job characteristics.[40] When people take more demanding jobs, they can expect heavier workloads, longer journeys to and from work, greater pressure to work overtime, less scope for negotiating reduced working hours and more besides. The 'purpose' of a job is also a factor. The need for a sense of purpose is surely universal, but it may take different forms from one social milieu to another. Schlegelmilch (1987), who reports findings from an analysis of job content among university graduates who have opted for an alternative lifestyle, records the following comments from a graduate working as a masseuse in a sauna: 'When I think of all that intellectual work, all that studying ... it makes me sick. You sit there at your desk, and maybe you write the odd article, and somebody says it's quite good; that happens maybe once or twice in a year.' (Schlegelmilch, 1987, pp.179-180). In an earlier work, Schlegelmilch also lists a number of irrational grounds (from an income-maximising point of view) for preferring underskilled to adequately skilled employment, irrespective of the demand situation in the market for adequately skilled jobs. These grounds include problems with a professional role, such as that of a teacher, anticipated problems with superiors (encountered in people of an anti-authoritarian disposition), the disillusionment of individuals with what they could achieve in their occupation in the prevailing conditions and so forth (Schlegelmilch, 1982, pp.418-419).

Individuals who rate the utility of non-monetary job characteristics higher than that of income are more likely to accept overqualification. A change in people's priorities as part of a general shift in social values also has a direct effect on the percentage of the total labour force in underskilled jobs.

Many of the empirical findings in Büchel (1998b) show that people who subscribe to the statement 'A successful career is not so important to me' are more likely to be in overqualified for their present jobs. This correlation is particularly high in the case of West German women in the middle tier of the qualification hierarchy, i.e. holders of vocational diplomas (Büchel and Weißhuhn, 1997a, Table 4-WA, pp.68-69); as was mentioned above, however, this pattern was also demonstrated by Schlegelmilch's studies of disaffected graduates.

3.4.4 Employers' productivity considerations

The most common decision facing employers in the context of overqualification (see subsection 3.2 above) is whether to select an overqualified job applicant in preference to one whose formal qualifications are commensurate with the job requirements. Their decisions will be governed by productivity-based considerations. This aspect has already been taken into account in the discussion of certain approaches in point 3.3.1 above; the intention in the following paragraphs is to subject it to more thorough scrutiny.

While the production theory-related effects of overqualification in the literature of the English-speaking world have already been fairly widely discussed,[41] scarcely any findings on this subject are available for the European continent (the few exceptions are referred to below).

On this point, the author of the standard textbook for German employment researchers,

[40] See for example Lucas, 1977, Sattinger, 1977, and Sattinger, 1980; the latter deals with this issue in detail on pp.72ff.

[41] See for example Rumberger, 1981b, pp.101 ff., Tsang and Levin, 1985, Tsang, 1987, Tsang et al., 1991, and Hersch, 1991; earlier partial analyses of underemployment are also contained in Kornhauser (1965), Vroom (1964), Sheppard and Herrick (1972), Kasl (1974), House (1974), Coburn (1975), Mangione and Quinn (1975) and Quinn and Mandilovitch (1975).

Wolfgang Franz, writes, 'If a job has a fixed rate of pay [...], the company's aim will be to identify the most productive applicant for that job', adding in a footnote, 'This is not necessarily the candidate with the highest (formal) qualification. Companies are rightly hesitant to engage "overqualified" candidates, for example because any dissatisfaction on the part of such an employee may have an adverse effect on his or her productivity [...] and because the probability that he or she will not stay long with the company is liable to be high' (Franz, 1991, pp. 211-212). The very wording of these assertions sounds a distinct note of caution, which lends Franz's statement the character of a supposition rather than a validated scientific finding. This means that it cannot be cited as evidence of such behaviour.

The main dimensions of productivity losses that result from overqualification respectively overeducation are given in the relevant literature in the English language as a lesser degree of job satisfaction (Khan and Morrow, 1991, Johnson and Roy, 1995, and de Witte and Steijn, 1998), poorer health (Amick and Lavis, 1998, pp.26 ff.), a higher incidence of shirking and absenteeism, narcotics (alcohol) consumption at work and 'sabotage' (for a general discussion of this point, see Tsang and Levin, 1985; also Haugrund, 1990, p.233). Other factors with relevance to business management are an assumed propensity among overqualified employees to change firms more frequently, which would result in a loss of human capital developed specifically for the needs of the company as well as creating direct transaction costs and restricting participation in further training, thereby impeding the development of know-how within the company (Beneito et al., forthcoming).

If employers are aware of these risks to productivity that are inherent in overqualification, that knowledge may influence the wage rates they set. Unlike the United States, however, many European countries have special legislation granting an extensive right of protection against dismissal. If shirking by an individual worker is only discovered – assuming that it *is* discovered – after the end of the initial probationary period, those employers who have overqualified staff on their payroll can only cover themselves financially by converting part of the basic wage into a productivity bonus – not just for the individual in question but by way of a 'collective insurance premium'.

Such a strategy, however, depends not only on possession of all the relevant information but also on the absence of trade-union 'obstruction' of the wage-fixing process. Both of these aspects create an incentive for the employer to deal with the equation of gross pay and productivity on a one-to-one basis, i.e. in relation to an individual employee.

An examination of these quite considerable productivity risks to an employer who recruits overqualified personnel (which are confirmed in most of the literature from English-speaking countries) raises the question whether employers have any interest at all in employing people in jobs for which they are overqualified. Haugrund (1990) sees one such incentive (in the technical sector) in the expectation of above-average performance from these employees, along with their 'natural' function as a 'centre of competence' within their respective teams (p.233).

The key to this question, however, is the fact that an employer's basis of assessment can be influenced by extraneous factors. A change in the information base, for example, may be such a factor. It is already patently difficult for employers to measure their employees' productivity at the best of times (see Bodenhöfer, 1994, pp.13ff., and Rippe, 1984, pp.76ff.). The productivity effects of overqualification, such as an increased incidence of shirking, must be even harder to measure. It is conceivable that administrative and technical progress might serve to enhance the supervisory mechanisms available to employers (cf. Tsang and Levin, 1985). Where overqualification is assumed to be having adverse effects on productivity which cannot be nullified by pay cuts, the consequence should be a reduction in the volume of overqualification.

The general difficulties involved in obtaining information (with which Rippe, 1994, deals in detail) might also induce employ-

ers, however, to base their decisions on subjective experience gathered over a lengthy period. If the information situation is extremely bad, they have to rely on 'prejudices'. It is conceivable that, with a general change in social values (in society's evaluation of the productive utility of job-sharing or part-time work, for example), the assessment basis on which employers take their decisions will alter.

Such a change may even be caused by a major shift in the market situation: 'The higher the percentage of new recruits who are university graduates, the more widely an increasing percentage of graduates in middle management will be accepted as the norm' (Teichler, quoted in *Der Spiegel*, 1985, p.47).

In the context of the sea change that the labour market is clearly undergoing, this acceptance of higher education as the norm is likely to take root not only among job applicants[42] but also in the minds of employers. A similar effect has been observed in the inverse relationship between the strength of the stigma attached to unemployment and the length of the dole queue (cf. Omori, 1997). This type of shift in values could therefore result in a sharp rise in overqualification in the future.[43]

The opposite effect could be achieved by the exertion of direct political influence on the production system. Tsang and Levin (1985, p.101) listed some of the levers that could be used for this purpose, such as tax breaks to encourage the employment of appropriately qualified staff, but these levers seem almost unworkable. Indeed, Rumberger (1981b, pp.124-125) had already delivered a pessimistic verdict on the power of governments to reduce the degree of overqualification in the private sector.

Be that as it may, government measures certainly can be an efficient means of reducing the level of overqualification in the labour market as a whole in the sense that the state, as a major employer, is able to define its own staff-selection criteria. The findings set out in Büchel and Weißhuhn, 1997a and 1998, show that the state actually does this very successfully; the percentage of overqualified staff in the civil service is minimal, at least in western Germany.[44] The only snag is that this strategy goes beyond the scope of the present part of our study, since the public sector is not subject to direct productivity criteria.

In the European context, apart from the classic income analyses performed by Duncan and Hoffmann (1981), productivity effects have only ever been analysed for Germany. Haugrund (1990) devoted a monograph to the subject. Despite its ambitious and highly detailed examination method, scarcely any general extrapolations can be made from the findings of the monograph, because it takes the form of a company study and focuses on a few technical trades. The author has also conducted three studies (Büchel, 1999b, which goes into greater detail, 1999c and 1999a). It emerges from these that productivity analyses only serve a useful purpose if the job-requirement level is kept constant. That is the only configuration which equates to the choice facing personnel managers who have to fill a vacant post.

The studies conducted in western Germany show that in unskilled jobs (in which the overwhelming majority of overqualified employees work) overqualified workers tend to keep better health, to change firms less frequently and to engage in more further-training activities than their less educated colleagues in similar jobs; there are no significant differences between the two groups in terms of the productivity indicators absenteeism and job satisfaction.

[42] Tsang et al. (1991), for example, demonstrate that the adverse effect of overqualification on job satisfaction has been diminished over the years.

[43] For a similar hypothesis relating to the academic world, see Büchel, 1996a.

[44] See Büchel and Weißhuhn, 1997a and 1998, Tables 3-W-84, -91, -93 and -95; see also Keller and Klein, 1994.

This result is consistent with Thurow's job-competition theory, which predicts that people with more education will be at the front of the labour queue. On the other hand, it contradicts the traditional expectation that overqualified personnel will feel frustrated and therefore prove less productive than their adequately educated colleagues.

If overqualified workers are less productive than their adequately qualified counterparts, as is generally reported in the relevant literature, it is solely because these findings are obtained with enquiry methods in which the formal level of qualification is held constant rather than the skill level required for the job. It is obvious that such a strategy can bear little fruit, for it is hardly surprising that a taxi driver with a law degree is less productive than a law graduate working as a solicitor. The only relevant question in this context is whether the taxi driver with the legal qualification is less productive than his fellow cabbies whose only formal vocational qualification is their taxi driver's licence.

In general terms, the findings of the author's aforementioned studies can serve to break down prejudices about the productivity of overqualified employees and go at least some way to explaining the persistence of overqualification in the labour market by demonstrating that it makes economic sense for employers to hire overqualified staff, because they can be expected to be more productive in a given job than other, less qualified candidates.

4. Strategies for measuring the educational adequacy of a job

4.1 Existing measurement strategies

On the problems involved in measuring overqualification, the OECD notes in its Employment Outlook that 'invisible underemployment [the term used by the OECD to denote overqualification] refers to individuals who are working in jobs where their skills are not adequately utilised, and by its very nature is difficult to measure. *For this reason, it is not discussed.*' (OECD, 1995a, p.45, author's italics).[45] What the OECD is expressing here is that there is no consensus among employment researchers on a measurement strategy, which is why no internationally standardised tables of comparative national statistics can be compiled for overqualification as they are for other phenomena, such as unemployment. The following paragraphs provide information about the various measurement issues. The box presents a typology of different measurement approaches.

4.1.1 The 'objective' approach

In the early days of empirical analysis of overqualification in the United States, the so-called 'objective' DOT/GED approach was regarded as the standard process for measuring the discrepancy between an employee's level of educational attainment and the actual education level required for his or her job. The measurement process is considered to be 'objective', in so far as it does not rely on the employee's own subjective assessment of the required education level. The basic principle of the measurement strategy is that it measures the required education level for a job by reference to its occupational category; all important microeconomic details of this occupation are recorded. Each occupation listed in the *Dictionary of Occupational Titles* (DOT; see Fine, 1968) is allocated a level of 'general educational development' (GED) from a scale of GED values.[46] In the second stage of the process, this educational development level is translated into an equivalent number of years of schooling (see Eckhaus, 1964).

[45] This means that Rumberger's postulate in an earlier OECD publication that the model he was developing was an internationally comparable measure of overqualification (Rumberger, 1994, p.281) must have fallen on deaf ears – at least in the short term.

[46] Attempts were made to introduce an alternative scale ('specific vocational preparation' – SVP), but it failed to establish a foothold in the field of overeducation research (cf. Fine, 1968, Scoville, 1966, and, for an explicit appraisal, Kalleberg and Sørensen, 1973, p.221).

Once the formal qualification level in the form of the highest reported educational certificate has also been converted into an equivalent in years of schooling (unless, as usually happens in the United States, the information has already been collected in the form of a number of completed years of schooling), the number of surplus or deficit years of education can easily be established by subtracting one amount from the other; thus, overeducation (in years) equals years of schooling completed minus GED levels (in years) (see for example Rumberger, 1981b, p.58).

The measurement scale for the variables that are calculated in this way is recognisably based on the requirements of the human-capital approach. Accordingly, income effects of surplus and deficit components of human capital can be analysed in the framework of the traditional evaluation procedures, and the returns to these components can be compared with the returns to the 'required' components of human capital (see for Duncan and Hoffmann, 1981; Kiker et al., 1997, and Daly et al. (forthcoming)).

Teresa Sullivan (1978), Clogg (1979), Clogg and Sullivan (1983) and Clogg and Shockey (1984) increased the reliability of this measurement by excluding from the definition of overqualified workers all persons with a surplus of zero years of schooling; in their place they proposed the insertion of a 'safety margin' comprising a standard deviation in excess of the mean duration of education used for a particular occupation ('analog for deficit years'); this approach was subsequently adopted by other researchers (see for example Verdugo and Turner Verdugo, 1989, and Groot, 1993a). At this point, one should add the methodological remark that Hartog (1997, p. 2) and Hartog and Jonker (1998, p. 102) classify this type of measurement as an own, third category apart of the so-called objective and subjective approach (see section 4.1.2 below). The present author, however, follows the argumentation of Groot (1996) who takes it as a variant of the DOT/GED approach.

An enquiry strategy derived from the DOT/GED approach can be found in Plicht et al., 1994, who analysed the structure of overqualification among academics in the western part of Germany on the basis of the national microcensus. Since a standardised GED scale is not available for Germany, the authors themselves had assessed each individual job type to establish whether it was adequately skilled for an incumbent with academic training. This strategy, however, produces an unavoidable 'grey area' (Hecker, 1992, p.4) of occupations to which it is impossible to assign an unequivocal education level. Plicht, Schober and Schreyer call this the 'mixed category' of occupations.

A variant combining the approaches described in the last two paragraphs is described in Groot (1996). Although the occupations of the employees he studies are listed in the British Household Panel Survey (BHPS), on the basis of which he conducts his examination, no GED rating is available for the various occupations, just as in the case of the German microcensus. Groot compensates by calculating the mean number of years' schooling of the employees in each occupational category; those whose schooling exceeds the average for their group by more than a standard deviation are classed as overqualified.

The validity of the DOT/GED methodology has been criticised on several occasions, and with good reason. The first problem lies in the wide diversity of skill levels required for different jobs within a single occupational category, which the GED system does not take into account: '[...] estimates of the mean years of required schooling in an occupation are constructed by aggregating jobs, thereby ignoring variation in the mean years of required schooling across jobs within an occupation' (Halaby, 1994, p.48).

Moreover, the use of a one-digit code to evaluate the level of education required for a job clearly cannot reflect the complexity of training-requirement profiles: 'The GED scores are simply not detailed enough to produce sensitive measures and have validity problems of their own' (Clogg and Shockey, 1984, p.254). Besides, the conversion of GED into required years of schooling is not standardised. Rumberger (1987) rightly expresses the following criticism: 'Another problem with the DOT

Box: Typology of overqualification measurement approaches

Short description of approach	Developers of approach and early studies	Advantages of approach	Disadvantages of approach	Selected follow-up empirical studies based on approach
Ia: **'Objective' approach**				
For each occupation listed in the *Dictionary of occupational titles* (DOT), information about the level of educational requirements is available in an ordered scale (*General educational development*, (GED)). The GED scale has to be made compatible to the scale on which individuals report their acquired schooling (e.g. transformation into requested years of schooling). The information about the requested schooling to perform a specific occupation (SR) is compared with the acquired schooling (SA) of job-holders. Overqualification of an individual is stated, if SA > SR.	(Preliminary work: Eckaus 1964, Fine 1968) Scoville (1966), Berg (1970), Kalleberg and Sørensen (1973)	No negative influences in the measurement process which are caused by subjective assessments of job-holders.	Heterogeneity of jobs within an occupation is neglected New occupations, such as e.g. in the IT industry, cannot be considered (until a new DOT is realised). Change in job requirements is neglected (until a new GED scale is realised). Defining required skill levels (construction of GED scale) is methodologically problematic. Making the GED scale compatible to the scale of acquired schooling is methodologically problematic. Usually high numbers of missing values in occupational information (caused by coding problems).	Hartog (1980), Burris (1983(c)), Rumberger (1987), Patrinos (1997), Batenburg and de Witte (1998)

Box: continued

Short description of approach	Developers of approach and early studies	Advantages of approach	Disadvantages of approach	Selected follow-up empirical studies based on approach
Ib: Variant of 'objective' approach: 'realised match approach'				
Within each occupation (disaggregated as low as possible, usually on a 3-digit-level), the mean, median, or mode (M) and the standard deviation (SD) of acquired schooling of job-holders is calculated. Information about M and SD of a specific occupation is compared with the acquired schooling (SA) of job-holders. Overqualification of an individual is stated, if SA > (M + SD).	Sullivan (1978), Clogg (1979), Clogg and Shockey (1984)	Higher validity when categorising overqualification.	Genuine problem of neglecting heterogeneity of jobs within an occupation remains. Methodological problems in measuring means medians, or modes, and especially measuring standard deviations, in occupations with few employed. Problems with causal relations: the higher the share of 'effectively' overqualified workers within a specific occupation, the lower the measured share 'detected' overqualified workers (and vice versa).	Shockey (1989), Verdugo and Turner Verdugo (1989), Groot (1993(a), 1996), Kiker et al. (1997), Alpin et al. (1998), Cohn and Ng (1999), Cohn et al. (1999), Mendes de Oliveira et al. (forthcoming)

Box: continued

Short description of approach	Developers of approach and early studies	Advantages of approach	Disadvantages of approach	Selected follow-up empirical studies based on approach
IIa: 'Subjective' approach				
Each worker is asked about the educational requirements of his specific job (e.g. 'What kind of education is usually required to perform (get) a job like your's?' (required education, (RE)). The scale of the RE variable has to be made compatible with the scale of the respondents information of acquired schooling (ideally already by the designers of the questionnaire, e. g. by asking for years of schooling required). Overqualification of an individual is stated, if SA > RE.	Quinn and Mandilovitch (1975), Quinn and Staines (1979(a), (b)), Duncan and Hoffmann (1978, 1981)	Severe disadvantages of 'objective' approach become obsolete. Individuals know the specific requirements of their specific job best (specifically: better than labour market experts generating the GED scale).	Subjective influence in measurement approach: e.g. risk of getting answers influenced by a cognitive dissonance behaviour; answers may be biased towards pompousness or exaggerated modesty.	Sicherman (1991), Tsang et al. (1991) [with an extension using Approach Ia], Hersch (1991), Alba-Ramírez 1993, Hersch (1995), Johnson and Johnson (1995), Robst (1995(b)), McGoldrick and Robst (1996), Sloane et al. (1996), Borghans and Smits (1997), Battu et al. (1998(b)), Borghans et al. (1998), Battu et al. (1999), van der Velden and van Smoorenburg (1999), Beneito et al. (forthcoming), Dolton and Vignoles (forthcoming), Vahey (forthcoming)

Box: continued

Short description of approach	Developers of approach and early studies	Advantages of approach	Disadvantages of approach	Selected follow-up empirical studies based on approach
IIb: Variant of 'subjective' approach: three variables approach				
Measuring overqualification in a first step as described in IIa. Using a 3 third variable (occupational status) for validation. Validation check is done using a standardised categorisation system. This produces the output categories 'clearly plausible combination of the three variables', 'clearly implausible combination' (in German GSOEP: about 1% of cases), and 'doubtful plausibility of combination' (in German GSOEP: about 5% of cases). Overqualification of an individual in the case of SA > RE is stated only, if the validity check leads to a clearly plausible result (otherwise: generating a missing value).	Büchel and Weißhuhn (1997(a)).	Tests showed a much higher validity when categorising overqualification, compared to the standard subjective two-variable approach.	Approach produces a so-called 'mixed' or 'grey' area of work with doubtful plausibility of combination of required schooling, acquired schooling and occupational status. In general, individuals working in such a situation have to be excluded from overqualification analyses. This leads to information loss in general and reduced number of cases in special. Number of missing values in the produced overqualification variable is slightly higher than in the standard subjective two-variable approach, because three source variables are involved.	Most of overqualification studies authored or coauthored by Büchel.

is that categories of training requirements must be translated into equivalent years of schooling. Although such translations have been done in the past, there is no consensus on the appropriate conversion' (p.30). Of the many different measurement methods, each of which has a perceptible direct influence on the empirical results, three are presented by Rumberger (1980, p.105), Kalleberg and Sørensen (1973, p.221) and Burris (1983c, p.457) respectively. Furthermore, the DOT/GED system takes no account of the situation within a particular occupational category:[47] 'The DOT measure of required schooling can classify someone as overeducated when the person has a very good job within an occupation' (McGoldrick and Robst, 1996, p.281).

The final criticism is that the GED system, which dates from the sixties, does not respond to changes in the requirements for specific occupations, such as those resulting from technological progress (cf. Clogg et al., 1986, p.382; for a complete summary of the validity and reliability problems of the DOT/GED approach, see Rumberger, 1981b, pp.59 *et seq.*).

Given the objections enumerated above, some of which have serious implications, it is not surprising that this approach is hardly ever adopted any more in new studies on overqualification, which are largely based on the so-called 'subjective' strategy described in the next point.

4.1.2 The 'subjective' approach

The reservations about the DOT/GED approach which were expressed in the previous point relate to both of the steps that need to be taken to establish the education requirement for the practice of a particular occupation, i.e. the assignment of GED scores to the occupations in the DOT list and the calculation of the GED equivalent in years of schooling. This criticism is not levelled, however, at the idea of equating the required number of years' schooling with the actual duration of an employee's schooling. It follows from this that any improvement, especially if it relates to the reliability of the mismatch indicator, should focus exclusively on the process of determining of the education level required for the job

One effective way of tackling the problem is to ask employees themselves for a subjective assessment of the qualification level required for their respective jobs. Respondents may be asked to choose from a scale of requirement categories or to assess the qualification level in terms of a number of years of training. The questions are sometimes varied. Respondents may be asked for the qualification that is normally required for the work they perform (this is the case in the German Socio-Economic Panel (GSOEP) study and in other surveys such as the employment survey conducted by the Federal Institute for Vocational Training (BIBB) and the Institute for Employment Research (IAB) in 1991-92). Another common question asks for the qualification required to obtain the relevant job; this is the approach adopted in the Panel Study of Income Dynamics (PSID), although McGoldrick and Robst (1996, p.281) rate the PSID question inferior to that of the GSOEP. The nature of the question does not alter the process of equating the required qualification with the employee's actual qualification level in order to obtain the mismatch indicator.

The first such survey of job-requirement level was conducted in the PSID of 1976, and others took place in 1978 and 1985. The same approach was adopted by the GSOEP.

Although there are no reports in the relevant literature of reliability problems stemming from incomprehension (cf. Hersch, 1991, p.141), the subjective nature of the question undoubtedly poses its own reliability problem.

[47] What is meant here is a highly generic indication of the combination of status group and job-requirement level, along the lines of the indicator *berufliche Stellung* ('occupational status') which is often available in Germany, for example in the following form: 'employment as: unskilled worker, skilled worker, foreman/master craftsman, white-collar worker in an unskilled job, white-collar worker in a skilled job, white-collar worker in a highly skilled job, sole trader, self-employed person with employees, assisting family member, trainee/internee, clerical-grade civil servant, executive-grade civil servant and administrative-grade civil servant'.

It is conceivable, for instance, that reported requirement levels will tend to relate to conditions of recruitment at a particular time rather than present job descriptions; moreover, it is not impossible that cognitive dissonance might cause overqualified employees to imagine a higher requirement level than that which actually obtains (Hartog and Oosterbeek, 1988, p.186-187; on this aspect of data collection, see also Kalleberg and Sørensen, 1973, p.236).

Nevertheless, it may be expected that differences in required skill levels for people with equivalent qualifications will be sufficiently identifiable: 'Although this measure may contain much noise, due to differences in standards the individuals employ, it will certainly bring out differences among equally educated individuals in the demands that their jobs put on them (Hartog, 1985a, p.282; for a similar line of argument, see Witte and Kalleberg, 1995, p.301). For all its recognised flaws, the subjective approach is generally held to be more effective than the DOT/GED system: 'This [i.e. the subjective approach] has the advantage of obtaining information from the source closest to the actual job situation, taking account of all specific circumstances' (Hartog and Oosterbeek, 1988, p.186). A general reliability check on this strategy, involving a comparison of employees' and employers' responses, for example, has yet to be developed.

4.1.3 Unorthodox measurement strategies

Studies devoted to the examination of mismatches between job and qualification are characterised by an almost unbounded diversity of measurement strategies. The purpose of the following paragraphs is to show just how diverse these strategies can be by means of some examples from German literature.

Apart from the studies by Rippe (1988), Schwarze (1993), Plicht et al. (1994), Brinkmann and Wiedemann (1995) and the author, German employment research gives the impression of having been insensitive until quite recently to the methodological debate outlined above, which was conducted with great gusto in the pages of the U.S. journals. The diversity of methods not only raises questions about the reliability and validity of the measurement strategies but also complicates the quest for comparability of empirical data.

One classic measurement strategy in the field of German qualification research seeks to identify the extent to which knowledge and skills acquired in vocational training are usable in an individual's current job;[48] similar approaches are also to be found in earlier literature from the English-speaking world (e.g. Staines and Quinn, 1979, p.9). The problem with this strategy is that there are basically no jobs in which employees can draw upon all the knowledge and skills they had to assimilate in the course of their vocational training (cf. Suda, 1979, p.153). The assessment of the degree of applicability is likely to be very highly subjective. A validity test by Halaby (1994) on this type of measure produced disappointing results; Rippe (1988, pp.179-180) could only pour scorn on this measurement strategy.

Kaiser et al. (1980) used a system of seven job indicators designed to assess the job/qualification match – indicators such as the degree of variety in the job, cooperation with superiors, etc. The validity problems of this approach seem obvious (p.102).

Krämer (1982) establishes the degree of job/qualification match for executives of small companies by comparing their formal qualifications with a job grading that he assigns on the basis of their decision-making powers. On the basis of Krämer's findings, it is doubtful whether his measurement strategy can be considered a success. For example, he reports that 'It can actually be seen from the tables that all university graduates [in executive posts] are overqualified for the work assigned to them' [!] (p.105).

[48] See for example Stooss (1979), Chaberny et al. (1982), Minks and Filaretow (1993), Jansen (1993), Teichler (1994), Lewin et al. (1994a and b), Hofmann and Vogeler (1995) and Pfeiffer and Blechinger (1995).

Another approach tries to find a means of identifying overqualification on the sole basis of occupational status and formal qualification (see for example Henninges, 1991; Minks, 1992; Tessaring, 1994a; iwd, 1994a; Minks, 1996, and Velling and Pfeiffer, 1997). This strategy is clearly too basic to obtain valid results. The range of job requirements within various status groups is too wide to allow unequivocal categorisation. This is illustrated, for example, by the question whether or not a desk-officer post in an administrative body should be categorised as appropriate employment for a graduate of a higher technical college.[49]

As an alternative to occupational status, use is also made of the employee's position within a company, a category that is available from surveys such as the German microcensus (see for example Tessaring, 1994a, and Velling and Pfeiffer, 1997). A combination of the two status categories is used by Handl (1996), who uses information on both occupational status and company position to establish the level of an individual's employment. This, however, is unlikely to solve the aforementioned validity problems.

Earlier works sometimes had recourse to the employee's pay level as a suitable criterion of adequate employment (see for example Tessaring, 1984). The findings produced by Rumberger (1980), however, testify to the problems arising from income analyses in connection with the acquisition of data on overqualification: during the period covered by his study, the income position of college graduates in relation to high-school graduates had not deteriorated, but the relative adequacy of their education had. Schlegelmilch (1982) applied a more refined strategy, combining reported data on occupational status and income level, on the basis of which she classified as underskilled any job done by a graduate for which no university degree was required and for which the incumbent received less than the minimum rate of pay for graduates in the German public service, i.e. point IIa on the statutory salary scale for federal employees (see p.407, footnote 31).

An original approach is used by Szydlik, at least in his studies in German (Szydlik, 1996a, 1996b and 1997a). He extends the subjective approach by combining the obtained variables relating to the job/qualification match with the question whether the employees work in the occupation for which they have been trained. The question is what additional information this disaggregation yields. In a vertical sense (and this refers not only to the basic principle underlying the strategy for measuring overeducation but also the line of argument used by Szydlik in the interpretation of his findings), the information that a person is not working in the occupation for which he or she has been trained cannot be regarded *per se* as proof of a mismatch; in some cases, job descriptions in different occupations are far too similar to permit such an assertion (cf. section2 of the present study).

A highly unconventional categorisation of mismatches can be found in Wonneberger (1994, pp.144-145), where a mismatch is deemed to exist if a person is trained for an occupation (for which an academic degree is not required) in which career prospects are poor.

The diversity of measurement strategies illustrated in the foregoing paragraphs underlines the soundness of Rumberger's postulation of the need for standardised measurement of overqualification (Rumberger, 1994, p.281). Teichler (1994, p.28) reports that various studies have put the percentage of graduates in overqualification at levels ranging from 40% to under 5%, depending on the criteria applied. Elsewhere, Teichler (1998, p.98) tells of an approach that involved assigning the 'overqualified' label to all university graduates who admitted to knowing non-graduates with similar professional duties to their own (!). In such a case, the size of each respondent's circle of acquaintances would

[49] See for example Minks and Filaretow (1993, p.43), Gleiser (1996) and even Plicht et al. (1994); on the discussion of this question, see also Velling and Pfeiffer (1997, p.14, footnote 17); on the differentiation between graduates of technical colleges and universities, see Gleiser (1996, pp.36-37).

927

have a direct bearing on the findings of the study. It is patently obvious that such measurement strategies can yield little useful information.

4.2 An innovative approach

As a refinement of the familiar measurement strategies presented in subsection 4.1 above, the empirical part of this study (section 6) will introduce a new process for identifying overqualification. It is based on the conventional subjective approach. The innovative element is the inclusion of a third indicator to validate the overqualification variables which were initially obtained from the information on employees' formal qualifications and job-requirement levels. It has to be said that the disadvantages of this strategy are a slightly higher rate of missing values and a category entitled 'implausible combination of the three basic variables'. In addition, there is also an optional 'mixed' category to cover cases in which the information conveyed by the three basic variables does not permit a clear distinction to be drawn between a job/training mismatch and a case of overqualification. The crucial advantage of this triple-variable strategy is that it draws a far sharper line between adequate work and overqualification than the conventional double-variable approach (for details see point 6.1.2 below).

5. Overqualification: a literature survey

The educational policymakers' fear of producing surplus qualifications for which there is no demand in the marketplace is presumably as old as institutionalised education itself.

Tessaring (1980, pp.374-375) corroborates this, quoting from almost 300 years of German educational history. For example, in 1890 Bismarck pronounced these words of warning: 'One of the principal ills of our higher school system lies in the surfeit of academic schools and in the artful seduction to attend the same which our establishments practise, so that we breed learned young men far beyond our needs and beyond any possibility of their procuring suitable positions. Our higher schools are attended by too many young persons who are destined neither by talent nor by parental provenance for a learned profession [...]. The consequence is the excessive study of all academic disciplines and the education of a *proletariat of scholars constituting a danger to the state*.' [author's italics].

Similar quotations from other countries have also been recorded. The debate on the career prospects of qualified individuals leaving the education system was given a new lease of life in the sixties and seventies, when a rapid expansion of higher education took place almost simultaneously in the United States and some European countries, driven by demographic developments and political decisions. Education and employment researchers in the United States were the first to undertake systematic study of the consequences of a glut of higher qualifications and thereby set their seal on the scientific examination of the phenomenon of overeducation.

5.1 Origins of the discussion

5.1.1 The U.S. discussion from the sixties to the eighties

Treatment of the overqualification problem by American employment researchers may be considered to have begun with Berg's monograph of 1970. Under the catchy title *The Great Training Robbery*, Berg tried to demonstrate that the labour market was no longer able to absorb the output of university and college graduates comfortably following the sharp rise in their numbers in the wake of the baby boom and changes in educational preferences.[50] The repercussions would be keenly felt in the form of unemployment and overqualification, accompanied by falling returns to education. As the Bureau of Labor Statistics later established, the number of university and college graduates in underskilled jobs multiplied from about a million to 3.6 million in the short period from 1969 to 1980 (Hecker, 1992, p.5).

[50] See also his subsequent works on this subject, such as Berg (1989).

Methodological innovation made a very early appearance in the study by Kalleberg and Sørensen (1973), which presented a simple measurement strategy for the collection of empirical data on overqualification. This approach was based on the DOT/GED system (for details see subsection 4.1 above) and followed on from the work of Eckaus (1964) and Scoville (1966), who took the measurements provided by the authorities for assessing the required skill level for jobs in the various occupational categories and adapted them for use by employment researchers. These multivariate data analyses did not yet control, however, for significant factors such as age.

In 1975, following thematically related preliminary studies (Freeman, 1971, and Freeman and Breneman, 1974) one of the two main protagonists in the U.S. overeducation debate, Richard Freeman, entered the scene. His question *Overinvestment in college training?* (Freeman, 1975b) is intended to be rhetorical. Freeman was firmly convinced that the college system in the United States had been producing a large surplus of qualifications since the sixties, which was not entirely due to the demographic effect of the baby boom. He tried to underpin this assertion in subsequent works, including a monograph devoted to the issue (Freeman, 1976b)[51] and a contribution to the *Review of Economics and Statistics* (Freeman, 1977); this period also saw the appearance of his special studies devoted to specific occupational groups (Freeman, 1975a, 1975c and 1976a).

The 'discovery' of the growing imbalance between the supply of and the demand for higher qualifications in the U.S. labour market had already been made at that point (see for example Carnegie Commission on Higher Education, 1973), but it had not yet been sufficiently 'marketed'. The pithy titles of his studies on the subject of overqualification, suggesting that the hypothesis underlying his research is an incontrovertible truth, and his sometimes drastic speculations on the consequences of the growing qualification surplus (e.g. 'destabilizing political consequences' – Freeman, 1976b, p.189) achieved their aim and made Freeman the most-quoted author in American literature on the subject of overqualification, even though numerous papers in a similar vein appeared at that time (see for example Jenkins, 1974; Rawlins and Ulman, 1974; Dore, 1976; Jaffe and Froomkin, 1978; Brinkmann, 1978; Suda, 1979; Denison, 1979, and a later work relating to Canada, namely Dooley, 1986).

Freeman's presentation, which is quite one-sided at times, could not fail to provoke criticism (see for example Smith and Welch, 1978). Several replies were published in issue No1 of the *Journal of Human Resources* for 1980. Witmer (1980) and Schwartz and Thornton (1980) criticised Freeman's methodological approach.

Russell Rumberger, who was to emerge as the second main protagonist in this discussion alongside Freeman, did not find any empirical evidence to suggest that the relative position of university and college graduates in the labour market was deteriorating, but did identify a rise in overeducation (Rumberger, 1980). Freeman, however, was unmoved by this welter of criticism, describing the claims of Schwartz and Thornton, for example, as 'pure nonsense' (Freeman, 1980, p.141). In a concluding review of the debate in the *Journal of Human Resources*, however, Kaufman (1984) advances arguments in support of Schwartz and Thornton. After the publication of another two shorter papers (Freeman, 1981a and b), Richard Freeman withdrew from this field of research.

Staines and Quinn (1979) adopted an innovative approach, analysing individual data on job characteristics in a partial time series. Survey data for the years 1969, 1973 and 1977 are examined. One category in the collected data is the respondents' subjective assessment of their job/education match (p.9). Staines and Quinn also arrive at the conclusion that the overall degree of mismatch has tended to increase.

In subsequent studies, Rumberger (1981a, 1981c and 1984) concentrated on presenting

[51] For a review of the monograph, see Levin, 1977.

929

evidence in support of his thesis that the development of the job structure in the United States is marked by a slower rise in skill requirements than would be necessary to ensure that enough appropriately skilled jobs were available for the masses of new university and college graduates entering the labour market. He even asks the question whether technical progress, contrary to common belief (see for example Cappelli, 1993, who examines the production system), actually leads to a reduction in the skill level required for the average job (Rumberger, 1981a, p.588; see also Rumberger, 1981b, p.67).

Rumberger's studies are innovative in relation to Freeman's in that Rumberger shifts the concept of overeducation from the macroeconomic level to that of the individual; all of his measurements are based on the DOT-GED approach.[52] His monograph on overeducation in the U.S. labour market (Rumberger, 1981b) – the most important on the subject of overqualification along with Freeman's *The Overeducated American* and perhaps also T.A. Sullivan's *Marginal Workers, Marginal Jobs* (Sullivan, 1978) – goes far beyond any previous literature in its comprehensive and thematically broad portrayal of the researched aspects of overeducation.

Another major innovation in the study of overeducation is to be found in Duncan and Hoffmann, 1981 (see also the Duncan and Hoffmann study of 1978, which was the forerunner of this work). These two authors examined at an individual level the financial returns to necessary, surplus and deficit components of education, thereby establishing a direct link to the human-capital approach. In place of the DOT/GED system, they used subjective data obtained directly from employees about the skill level required for their respective jobs; this information had originally been collected from the 1976 survey batch of the Panel Study of Income Dynamics (PSID). A similar approach underlies studies by Rumberger (1987) and Shockey (1989).

New dimensions were added by Burris (1983a), whose study was the first to explore the sociological and political aspects of overqualification. Until then, studies had only analysed individual sociological or political aspects, such as the effects of overqualification on health (see for example Kasl, 1974; House, 1974; Coburn, 1975, and Caplan et al., 1980).

The studies by Jaffe and Froomkin (1978), Clogg (1979), Clogg and Sullivan (1983), Clogg and Shockey (1984 and 1985), Clogg et al. (1986) and Lichter (1988) – although Lichter's definition of overqualification poses some problems – proved that the rise in overeducation in the United States was caused to a great extent by changes in the demographic structure of the potential labour force.[53] The study by Burris (1983b) can be considered as part of this cluster, too.

The 1985 study by Tsang and Levin seeks to present the first integral economic theory to explain the persistence of overqualification; the study focuses primarily on productivity issues (for a critical appraisal, see deGrip, 1989; for a reply to this criticism, see Tsang and Levin, 1989.

By 1986, the postulate that overeducation was gradually developing into a critical problem within the U.S. labour market had come to be regarded as an established fact, but it was subjected to critical examination for the first time by Smith (1986); however, this methodologically based study, which was sharply critical of the measurement strategies used in support of the said postulate, had a limited impact.

5.1.2 The early discussion outside the United States: the case of Germany

Outside the United States too, the sometimes dramatic expansion of educational provision was the subject of controversy in various countries (for a general review, see Teichler, 1996,

[52] For a detailed description of the DOT/GED system, see point 4.1.1 above.

[53] Dooley (1986), however, arrives at the opposite conclusion for Canada.

pp.25 ff.). It must be said, however, that the academic quality of the debates lagged far behind those in which the U.S. researchers were engaged, at least until the late seventies. The case of Germany may be cited as an example.

The study *Akademisches Proletariat?* (Schlaffke, 1972) caused quite a stir among German educational researchers. The study (in fact, the term 'essay' is more apt) strikes a perceptibly and no doubt deliberately polemical tone. The line of argument is inherently negative and fuels conservative prejudices; moreover, the author generally fails to provide his readers with sources in which they might find empirical figures to substantiate his hypotheses. The following quote exemplifies this approach: 'How can a political scientist whose special papers at university were in the theory of the class struggle and strategies for overthrowing the system possibly explain the workings of our economic system to his pupils in a modern-studies class?' (p.47). If strict academic standards of empiricism and analysis are applied, this key contribution to the early German literature on overqualification is clearly not in any respect in the same league as its American contemporaries.

The only field of research which seemed to interest German empiricists was that of educational forecasting. As in the early discussion in the United States, it was not a matter of studying aggregated individual discrepancies between job requirements and formal qualifications but rather of alleged or expected imbalances between the aggregate supply of labour with particular qualifications and the aggregate demand for such labour. Besides the interest in quantitative forecasting, the main methodological bone of contention was whether the demand-centred manpower requirement approach or the supply-centred social demand approach should be adopted (for a detailed review of the host of conflicting predictions, see Tessaring, 1980, pp. 376). The huge discrepancies between the findings of such studies, however, presumably sowed more confusion than reassurance in the minds of educational planners (cf. Schlaffke, 1972, pp.10 *et seq.*).

Not until the end of the seventies did empirical research in Germany diversify into several different subject areas. Tessaring (1978) tried to trace the careers of graduates but had to rely on highly aggregated statistical material (see also Tessaring, 1981 and 1984, for similar approaches). A breakthrough was undoubtedly made in the empirical study of graduate employment when the microeconomic Infratest surveys were conducted in the autumn of 1978 and the spring of 1979 (see Stooss, 1979). Similarly designed analyses by the Institute for Employment Research (IAB) around that time laid the foundations for a new research tradition (see for example Kaiser et al., 1980).

The competition that emerged in the late seventies and early eighties between microeconomic empirical research, which strove to establish certain methodological standards, and the 'essayist' approach to the overqualification problem is exemplified by the papers published in an anthology of contributions to the Conference on University Expansion and the Labour Market – Problems and Research Perspectives (*Tagung «Hochschulexpansion und Arbeitsmarkt – Problemstellungen und Forschungsperspektiven»*), held in Berlin in November1981. While some sound empirical papers were presented (Tessaring, 1983, and Schlegelmilch, 1983a, for example) there was certainly no shortage of representatives of the 'old school'. Busch and Hommerich (1983), for instance, saw the cause of the escalating employment problem in changing 'power constellations' (p.71), while Krais (1983) proposed that the issue of graduate employment and career prospects be examined 'in the light of class theory' (p.36), and Nuthmann (1983) expressed the following view on the graduate overqualification: 'Some of these activities, work forms and lifestyles may be directly connected with labour-market problems of the people concerned. In other cases, they are probably a reaction to growing economism and industrialisation, bureaucratisation and the increase in the statutory regulation and control of all aspects of life' (p.11). In the years that followed, however, such approaches were almost entirely supplanted by empirical analytical research (see point 5.2.2 below).

It only remains to describe how the German Federal Government assessed the threat of an increase in sub-standard forms of employment for graduates as a result of the reform and expansion of higher education. The Federal Ministry of Education and Science seemed to be rather wary of vastly overoptimistic predictions of labour demand. The purpose of a course of study, namely to qualify the student for professional activity of a suitable standard, certainly remained intact ('Aim of the course of study: The purpose of instruction and study shall be to prepare the student for a field of professional activity [... so] that he or she is capable of performing academic [...] work' – section 7 of the Higher Education Framework Act (*Hochschulrahmengesetz*), quoted in Neusel, 1983, p.236). Expectations regarding the ability of the labour market to play its part in the achievement of this aim, however, were muted. As part of the process of developing 'points of reference' for the Permanent Commission on Higher Education Reform, the Federal Ministry of Education and Science called on employers to 'create jobs [for graduates] below the top level', and expressed confidence that even '"underskilled" occupations' could 'be a means of job satisfaction' (quoted in Neusel, 1983, p.240).

5.2 Present state of research

5.2.1 Recent studies relating to the United States and Canada

Recent studies from the United States on the subject of overeducation/overqualification have been characterised by the fact that, unlike the studies referred to in subsection 5.1 above, they rarely focus on the consequences of a glut of university and college graduates in the labour market. By the end of the eighties, the concept of 'overeducation' – relating to individuals – had become established as a separate category in the field of employment research, and subsequent studies became more widely diversified.

For the first time, the implications of overqualification for business management came under scrutiny. The question was whether overqualified employees were less productive in the same level of job than their adequately educated colleagues (Tsang, 1987, and Tsang et al., 1991). The relevant studies was based on in-house data of the U.S. Bell Companies. More recent studies examine the correlation between overqualification and health (Amick and Lavis, 1998) and between overqualification and job satisfaction (Hersch, 1991, Johnson and Johnson, 1992, 1996 and 1997, and Johnson and Roy, 1994 and 1995).

A latecomer to the debate described in subsection 5.1 above was the article by Verdugo and Turner Verdugo (1989), which followed on from a shorter study (Verdugo and Turner Verdugo, 1988). Adopting a similar approach to Duncan and Hoffmann (1981), but without explicitly referring to that approach, the authors believed they could disprove the Duncan and Hoffmann findings, because they calculated negative returns to components of schooling that employees did not require in the performance of their jobs. Their study aroused vehement opposition (Cohn, 1992, Gill and Solberg, 1992, then Cohn and Khan, 1995); the reply by Verdugo and Turner Verdugo (1992) to the criticism of their line of enquiry and of the way they interpreted their findings was rather unconvincing.

Sicherman (1991) studied overqualification in the framework of the career mobility theory (Sicherman and Galor, 1990). He used the phenomenon of overqualification as a practical example of the empirical relevance of the theory he had helped to develop. He dismissed the possibility that other theories could do much, if anything at all, to explain the phenomenon. An extensive review (and endorsement) of the career-mobility approach is contained in Hersch (1995).

The observation that the imbalance in the labour market for graduates which had begun to appear in the sixties had continued throughout the eighties (and that no improvement was in sight – cf. Shelley, 1992 and 1994) was the subject of another series of 'conventional' articles (Hecker, 1992, Tyler et al., 1995a, b and c) who criticised Hecker, and the latter's reply to this criticism (Hecker, 1995a); see also Amirault, 1992, Cappelli, 1993, Hecker, 1995b, and Zemsky, 1998.

An article by Halaby (1994) levelled methodological criticism at the DOT/GED approach and at questions on the occupational utility of knowledge acquired through formal education, to which the article ascribes little validity.

The study by Bishop (1995) gives a short introduction to the topic of overeducation and the respective state of research in form of a contribution to an encyclopedia of economics of education. In the same volume, the article by Levin (1995) presents a broader overlook to the environmental setting, in which this special field of research is done.

The connection between the quality of a university or college education and the probability of overqualification is examined by Robst (1995b). As expected, Robst establishes a negative correlation between the quality of the university or college a person attends and the probability of subsequent overqualification.

Lastly, an original study is presented by McGoldrick and Robst (1996), who test the theory of 'differential overqualification' developed by Frank (1978b); the originality of their approach lies in the fact that, instead of basing their test on income factors (see for example Ofek and Merrill, 1997), they use an employee-centred measure of overqualification. They reject the hypothesis that married women run a higher risk of overqualification in smaller local labour markets.

Madamba and De Jong (1997) reopen the discussion on the influence of demographic changes on the degree of overqualification. They find that, in the United States, male immigrants from India, China and Korea are more frequently overqualified, those from Vietnam are more rarely unemployed, while immigrants from the Philippines and Japan do not differ significantly in this respect from the longer-established Anglo-Saxon population. Zhou (1993), on the other hand, reported higher mismatch rates for Japanese (and Cuban) workers. To what extent the qualifications of those immigrants who were educated in their native countries can be made comparable is an exceedingly moot question, given the extreme variations in the quality of the school systems in their countries of origin and is a fundamental problem in studies designed to examine overqualification among immigrants.

On the basis of Canadian data, Vahey (forthcoming) certainly confirms in principle, at least as far as men are concerned, the findings of Duncan and Hoffmann (1981) and their epigones, according to which positive and negative returns to human capital may be expected for surplus and deficit years of schooling respectively; he demonstrates, however, that the returns vary in accordance with the skill level required for each job. For women, on the other hand, he finds insignificant effects at all job levels.

5.2.2 Recent studies relating to the countries of the European Union

The main distinct traditions of research into overqualification outside the United States exist in the Netherlands and Germany. In the United Kingdom the subject was not 'discovered' until the mid-nineties, although the subsequent volume of research on overqualification in the UK has been considerable. There are only isolated analyses for other countries.

The Netherlands

There are several analyses of job/qualification matches in the Netherlands. If we focus exclusively on the studies devoted to overqualification, it emerges that Dutch employment researchers, compared with their colleagues in other EU countries, have been the most prolific contributors on this subject in English, at least in the widely accessible English-language publications.

The first studies were undertaken by Hartog (1985a and 1986). His approach is very similar to that of Duncan and Hoffmann (1981), although he does not cite the latter work. Like Duncan and Hoffmann, he rejects unilateral determination of pay rates for the Dutch context too, either by the supply side through formal qualification (the human-capital theory) or by the demand side through job

933

requirements (the job-competition model). In the good old Tinbergenian tradition, he provides evidence of the explanatory capacity of the assignment theory. Extending this approach, Hartog and Oosterbeek (1988) identify a gradual rise in overqualification in the Netherlands over a period of time. Groot (1993a) refines the approach presented in Duncan and Hoffmann (1981), devoting special attention to the link between training activities and mismatches. Overqualification, Groot says, not only has an adverse effect on total income from employment but also has the same sort of impact on returns to in-service training.

In more recent papers on the subject, Hartog (1997 and 1999b) passes critical judgement on the body of research into overqualification. As far as future research perspectives are concerned, the author puts the case for longitudinal analyses, more theoretical input, more ambitious evaluation procedures and – in the old-established tradition of Dutch research in this field, which bears the unmistakable imprint of Tinbergen – for analytical approaches in which supply and demand effects are considered in combination. In the study by Hartog and Jonker (1998), the authors have access to the Brabant-survey which includes IQ measures. Having the opportunity to control for individual ability opens the door to new aspects. The authors, however, find that the impact of this variable on the risk to work overeducated is relatively low. In other studies (Hartog, 1999c, d and a), Hartog once again warns against investing overqualification with unduly pejorative connotations, referring to the positive, albeit limited, returns to surplus years of education which were previously identified by Duncan and Hoffmann (1981).

Borghans and Smits (1997) show that an increasing percentage of overqualified labour can also impair the earning potential of adequately educated employees. DeWitte and Steijn (1998) examine the effects of increasing automation on the incidence of overqualification. They discover a direct link as well as frustration effects in overqualified employees. Batenburg and Witte (1998) identify a rise in the mismatch rate within the Dutch labour market over the period from 1977 to 1995. Groot and Maassen van den Brink (1999) demonstrate the sensitivity of the measurement strategies used to identify jobs which are incommensurate with their incumbents' qualifications. Groot and Maassen van den Brink (forthcoming) present a survey of empirical findings from various countries. Among other things, this survey reveals a positive correlation between growth rates and overqualification rates. Van Eijs and Heijke (forthcoming) demonstrate that the current allocation of qualifications to job requirements is inefficient; this finding contrasts with Hartog's latest estimates. The study by Borghans and de Grip (1999) examines determinants of overqualification, categorising them by whether or not they are compatible with the allocation theory. A clear result, however, does not emerge. Van der Velden and van Smoorenburg (1999) compare results gained from the so-called objective and subjective measurement approach. Their major finding is that overqualification measured with an objective approach is clearly overestimated. On the other hand, they do not find hints for an underestimation of overqualification when applying the subjective approach.

Two Dutch authors are about to present a new anthology on overqualification (Borghans and de Grip, forthcoming(b)). In their editorial article (forthcoming(a)), Borghans and de Grip discuss the current issues in this field. The paper by Muysken and terWeel (forthcoming) seeks to integrate human-capital theory, job-search theory, the job-competition model and screening into a discrete theoretical approach. Borghans et al. (forthcoming) examine the connection between aggregated and individual overqualification on the one hand and low pay on the other and conclude that the impact of overqualification is greater than that of low pay. Finally, the study by Gautier (forthcoming) examines cyclical effects on the level of demand for various qualifications. One of his findings is that, during recessions, employees in unskilled jobs are paid off without regard to their qualification levels.

Besides the aforementioned works, there are several relevant essays in Dutch, such as Hartog, 1985b, Oosterbeek, 1986, Groot, 1993b, Groot and Maassen van den Brink,

1996, Oosterbeek and Webbink, 1996, and Groeneveld, 1997, which testify, as in the case of Germany, to a wealth of research on the subject of overqualification that the international scientific community is unable to appreciate. The author's lack of knowledge of the Dutch language prohibits an evaluation of the content of these papers at the present juncture.

Germany

The only comprehensive monograph on overqualification in Germany is a study by the present author (Büchel, 1998b). One of the main innovative methodological elements of this study is that it is the first to adapt the existing instruments of dynamic unemployment research systematically for use in the analysis of overqualification. In this way, on the basis of panel data, it is possible to analyse the probability of individuals being recruited and of their staying with or leaving their firm, to determine longer-term income effects and more besides. Important preliminary work, especially with regard to the categorisation of overqualification, was performed in the studies by Büchel and Weißhuhn (1997a and 1998). Schlegelmilch (1987) presented a monograph analysing data on overqualified graduates; another monograph, in the form of a company study, on the effects of overqualification among technicians and engineers (Haugrund, 1990) was designed more as a business-management resource.

Two individual papers dealing with the subject under examination were produced by Szydlik (1996a and 1997a). To generate the mismatch variables, Szydlik includes a question about the occupation for which the employee has trained (for a critique of this approach, see section 2 above) but does not use occupational status to validate the mismatch (Szydlik, 1996b, p.300, footnote 10) as Büchel and Weißhuhn do (see also subsection 6.1 below). This produces distinctly higher percentages of overqualification than would result from an operationalisation based on the Büchel/Weißhuhn approach. Velling and Pfeiffer (1997) also examine overqualification (as part of a wider-ranging study) for all qualification levels, though for western Germany only. Despite the use of a different database and a sharply divergent means of assessing the degree of job/qualification match, the study arrives at very similar findings to those of Büchel and Weißhuhn (1997a and 1998). Lastly, Zwick (2000 and forthcoming) adopts an ambitious theoretical approach to examine the links between overqualification, wage levels and attitudes to education.

In continuation of the research tradition outlined in point 5.1.2 above, the main focus of German overqualification research has remained on university graduates, right down to the present day.

Straddling the border between 'old' and 'new' research is the work of Rippe (1988), who was the first researcher in Germany to conduct a broad investigation of the methodological side of job-match assessment and thus to reflect at least some signs of affinity with the body of U.S. research on that subject; until that point, Germans had been virtually oblivious to the discussion of these issues in the United States. Proceeding from the DOT/GED approach and the criticism levelled at it and at its application to the microcensus by IAB researchers, Rippe identified 'a lack of validated methods for assessing job matches by comparing existing and required qualifications'.

Plicht et al. (1994) presented the first broad-based study of the suitability of jobs held by university graduates in Germany. Their approach may not correspond exactly to the DOT/GED strategy, but it is related to the latter in so far as it does not have recourse subjective assessment of job-requirement levels by the respondents themselves. Although it is designed as a cohort study without longitudinal examination of individuals, the authoresses postulate that the high percentage of young graduates in jobs for which they are overqualified is primarily due to the fact that overqualification is a natural phenomenon at this stage in a graduate's career. This interpretation was put into perspective in Büchel (1996a): although the risk of involuntary overqualification is higher at the start of a career than after a period of occupational experience, it has been proved that structural and cohort effects have played a dominant role

during the nineties. In other words, the percentage of graduates who tend to run a higher risk of overqualification on account of their membership of particular status groups (e.g. women and graduates of technical colleges) is rising steadily, and membership of these groups is largely unalterable in the course of a career.

The situation of academically trained career starters is examined by Büchel and Matiaske (1996) on the basis of longitudinal data from the German Socio-Economic Panel (GSOEP). It emerges from this study that a high risk of overqualification at the start of a career attaches to certain 'soft' academic disciplines which are mainly chosen by female students. An interaction analysis shows that the gender effect is governed by the student's choice of subject.

Most of the other literature relating to the more recent discussion of the phenomenon of graduate overqualification in Germany may be divided into two categories: the first comprises highly specific surveys of graduates, differentiated by subject specialisation (most of these have been conducted by the University and College Information System (HIS) in Hanover) or even by specific departments of individual universities (this type of survey is conducted by 'interested parties', i.e. students in one of the departments in question, often as one of their degree papers); the other category comprises papers presented at conferences on the subject of graduate career prospects and subsequently published in the report of proceedings.

The HIS studies are reports on graduates in specific federal states or subjects, based on the system's own surveys (see for example Minks, 1992 and 1996; Minks and Filaretow, 1993; Lewin et al., 1994a and b). One of the central problems with these studies, however, lies in the database, which only covers the first years of a graduate's career.

This problem, of course, also arises for university- and subject-related studies of graduate employment. The utility of this type of study is undisputed, because it can give prospective students important information about future career prospects. Nevertheless, the scientific quality of the studies is generally below average, since they are compiled as a rule by people with no research background.[54]

The important thing about the latest developments in this field is that the discussion about the future of graduate employment in Germany now focuses on overqualification and unemployment as closely related phenomena (see for example Schreyer, 1999, and Wissenschaftsrat, 1999). This represents a major step away from the narrow perspectives which had long prevailed, in which unemployment was only seen as an employment risk.

Studies on the overqualification of people with vocational diplomas are considerably less common than studies on graduate job matches. The most plausible explanation of this phenomenon may be that higher education is expanding more rapidly than vocational education. Accordingly, graduates may be regarded as more likely victims of labour-market imbalances.

Hofbauer and Nagel (1987) conducted a wide-ranging study of the risk facing skilled workers of occupational demotion to semi-skilled or unskilled status, examining the specific level of risk in various different trades, for example. The study by Neubäumer (1993), to which reference has already been made in section3 above, is based on an unconventional approach. The authoress proceeds on the assumption that segmentation applies not only to the labour market but also to the market for training places in the dual system of classroom and on-the-job training. The study demonstrates that in those occupations where working conditions are poor, training is provided in excess of requirements as a means of coping with the loss of the better trainees, who move upmarket when they have served their apprenticeship. Those who complete their training in occupations with poor working conditions but do not find a job, either in the occupation for which they have trained or in

[54] For a collection of graduate studies from various European countries, see Teichler (1988).

a market segment with better career prospects (assuming they are prepared to switch to another occupation) are generally compelled to settle for overqualification. Neubäumer's findings show that this phenomenon is undoubtedly empirically significant in Germany (see also Neubäumer (1997) and Neubäumer (forthcoming)).

A study by the present author (Büchel, 1994b) examines overqualification at the start of non-graduates' careers. What seemed astonishing at first sight was the higher incomes earned by the overqualified workers. This finding, which was also obtained by Hofbauer and Nagel (1987, pp.54-55), shows that monetary considerations are an important factor in the acceptance of an underskilled job, at least in this phase of a person's career (for a similar finding, see Neubäumer, 1993). Pay differentials to compensate for monotonous work and other disagreeable working conditions, such as the presence of noxious substances, could also play a part (cf. Lucas, 1997, p.557). This factor may be particularly significant in the case of trained craftsmen who subsequently take up semi-skilled jobs in manufacturing industry or do piecework. Even after a short time, however, those who started out with a good fit would be better placed, because their income would have risen more sharply. A similar approach is found in partial analyses such as Büchel and Weißhuhn (1995), Weißhuhn and Büchel (1998), or Büchel and Pannenberg (1997).

Pfeiffer and Blechinger (1995) and Blechinger and Pfeiffer (1999) examine the realisable value of vocational training in the labour market and observe diminishing returns in the course of people's careers.

The only general study relating to Germany that is exclusively devoted to the fit between vocational training and jobs was conducted, ironically enough, by two researchers from the United States (Witte and Kalleberg, 1995). The way in which they assess job/training matches, however, is someewhat questionable, for they assert (p.311) that only about 50% of men and 60% of women who have successfully completed their vocational training are in jobs that match their training [!].

An innovative study was compiled by von Henninges (1996), who investigated the persistent contention that technical progress, the globalisation of labour markets and other factors would lead to the gradual disappearance of unskilled jobs. In so doing, he addressed the methodological problem whereby, because of the restricted availability of data, most studies do not focus on the requirement levels for specific jobs but on the formal qualifications of the people in those jobs. As a result of the expansion of educational provision, there are indeed fewer and fewer workers with no formal qualifications; however, the fact that unskilled work is being performed by semi-skilled or skilled workers means that the rate at which unskilled jobs are being shed is being systematically overstated (p.78).[55]

Lastly, the topic of overeducation was chosen as an example how to work efficiently with robust stochastic earnings frontiers (Jensen, 1999). This paper, however, has a stronger econometric focus than a substantial one.

Only a short time after the dissolution of the German Democratic Republic, special studies on eastern Germany began to appear. Von Henninges (1991) shows that, contrary to the ideological claims made by the regime, overqualification had already assumed epidemic proportions during the Communist era (see also Schwarze, 1993, Büchel, 1995, and Brinkmann and Wiedemann, 1995, p.330). Schwarze (1993) presents a comparison of the situation in eastern Germany before and after the demise of the East German state (1989 and 1991) and identifies income effects of overqualification.

The labour-market monitor for the new federal states proved to be an effective source of data for the investigation of overqualification. In thematically wide-ranging IAB studies on the development of the employment situation in eastern Germany, the phenomenon of

[55] At this point, however, it should be mentioned that, irrespective of data restrictions, macroeconomic surveys of the jobs that people do are far more difficult to conduct from a methodological point of view than surveys of employees' qualifications or occupational categories.

overqualification is given special treatment (Bielenski et al., 1994 and 1995, and Brinkmann and Wiedemann, 1995 and 1997). The very structure of the 1995 study by Brinkmann and Wiedemann (p.323) testifies to the high priority that is attached to the phenomenon of overqualification in the empirical research of the IAB, at least in relation to eastern Germany, where the percentages of overqualified employees are very high; this emerges especially clearly from the special study on this subject by Brinkmann and Wiedemann (1997).

These, then, are the studies that focus specifically on eastern Germany.[56]

The extent to which foreigners in Germany are affected by overqualification is investigated in a study by Szydlik (1996a). However, the fact that the source data (from the GSOEP) only yield rudimentary information on foreigners' qualification levels (at least for those who were educated in their native country) must pose problems when it comes to assessing whether their jobs are commensurate with their training. Szydlik observes, for example, that more than half of the Turks working in Germany are overqualified for their jobs. If we bear in mind, however, that even today Turkey requires only five years' compulsory schooling of its young citizens and that there is effectively no institutional system of vocational training in the country, the validity of this finding appears dubious. Heinelt and Lohmann (1992) also elicit high overqualification rates for ethnic Germans who have moved to the Federal Republic from Eastern Europe; here too, there are problems with the validity of the measurement strategy.

The job/training fit for working women is examined in detail in one of the studies by Büchel and Weißhuhn (1997c). Extending the basic approach adopted in Büchel and Weißhuhn (1997a and 1998), the authors attach special importance to an examination of the socioeconomic background of the women who are affected by overqualification. This relates not only to the women's family circumstances (e.g. the number of children in the household and the arrangements made for their care) but also to their partner's employment status, his income situation, etc. The study establishes a strong link between the financial circumstances of the household and the need to accept underskilled work, although marked differences were observed between women with different qualification levels. The household structure and the number of children seem to be less significant factors, with the qualification that women who are lone parents exhibit a far higher risk of having to accept a second-best solution in the labour market.

Other countries of the European Union

In the United Kingdom, Sloane et al. (forthcoming – see also Sloane et al., 1996) were the first to devote a study to the subject of overqualification. Their work is based on the research approach adopted by Duncan and Hoffmann (1981) and delivers similarly structured findings.

The Dutch researcher Groot (1996) found that few British employees were overqualified for their jobs. His assessment of the job/education match, however, was based on what appears to be a somewhat arbitrary modification of the DOT system. An extension of this approach, based on the same assessment strategy, is found in Groot and Maassen van den Brink (1995).

Battu et al. (1998a and b) test the theory of differential overqualification (Frank, 1978b) and arrive at a negative result. In a longitudinal study, Battu et al. (1999) show that overqualification has adverse effects on job satisfaction and income. They produce the noteworthy finding that social background does not affect the probability of a mismatch.[57]

[56] There are, however, other studies on the empirical situation in eastern Germany, such as those by Büchel and Weißhuhn (1997a, 1997c and 1998) and by Szydlik (1997a, b and c). One remarkable point is the finding presented by Szydlik alone that underemployment is less widespread in eastern than in western Germany (see Szydlik, 1997b, Table 1, p.43, or the redundant findings in Szydlik, 1997c, Table 2, p.13).

[57] Cf. Patrinos (1995 and 1997), who arrives at the opposite result for Greece.

Alpin et al. (1998) examine over- and underqualification in a wide-ranging study. Their ambitious quest to establish whether the overqualification of individuals is only a temporary phenomenon meets with little success, however, because they only have access to right-censored data on job duration. This question cannot be answered on the basis of such data. Finally, Battu and Sloane (forthcoming) find that displacement effects caused by overqualification do occur in the upper echelons of the labour market, but that unskilled workers in the United Kingdom are not being ousted to any great extent by overqualified recruits.

One of the more unusual longitudinal studies in the domain of overqualification research was presented by Dolton and Vignoles (1997). They observe that most employees who start their career in a job for which they are overqualified do not manage to make the transition to appropriate employment in the first six years. Dolton and Vignoles (forthcoming) arrive at similar findings to Sloane et al. (1996 and forthcoming) with regard to the returns to surplus years of schooling.

Alongside these microeconomic studies on overqualification there are also conventional studies which examine the aggregate effect produced by the expansion of the education system, such as the study by Mason (1996).

For France there are studies by Forgeot and Gautié (1997a and b), in which the percentages of over- and underqualified employees in the younger age brackets are assessed by qualification level and job duration for the years 1986 and 1995, as well as a study by Vincens (1995), which treats the problem of overqualification in a rather general fashion (pp. 149-150).

With regard to Spain, there are relevant studies by Alba-Ramírez (1993) and Beneito et al. (forthcoming). Alba-Ramírez finds evidence for the job-matching and career mobility theories. Beneito et al. examine the question whether surplus years of schooling should be regarded as complementary components of human capital or substitutes; their test shows that the latter is the more accurate assessment.

The Portuguese situation has been the subject of studies by Kiker et al. (1997) and by Mendes de Oliveira et al. (forthcoming). Kiker et al. adopt a similar approach to Duncan and Hoffmann (1981) and find that it confirms the allocation theory. Mendes de Oliveira et al. refine the same Duncan and Hoffmann approach and demonstrate that the returns to surplus and deficit years of schooling are heavily dependent on job duration.

In Greece, studies on overqualification have been produced by Patrinos (1995 and 1997). He arrives at similar overqualification rates for Greek graduates to those recorded in western Germany, for example. As might be expected, Patrinos finds evidence of wide divergences between academic disciplines. One especially noteworthy finding is that overqualification is disproportionately high among graduates from humbler backgrounds.[58] Other studies are based on the idea of overeducation as an imbalance between the supply of higher qualifications and the demand for them, an idea that was widespread in the early days of the discussion (see subsection 5.1 above); these include works by Tsoucalas (1981), Psacharopoulos (1988), Glytsos (1990) and Lambropoulos and Psacharopoulos (1992).

For Austria there is a study on access to blue-collar occupations for apprentices when they complete their training (Ofner, 1994). Ofner finds that, two years after obtaining their certificate of apprenticeship, about one-third of the former apprentices who have jobs are overqualified.

This review of nationally focused literature on the subject of overqualification shows that this major problem has yet to arouse the interest of employment researchers in many countries of the European Union. We can but speculate on the reasons for this. The restricted availability of key data may be a sig-

[58] This finding is consistent with that of the author (Büchel, 1997), who identifies a positive correlation between income prospects and the education level of the parental household, thereby challenging the oft-expressed view that a university degrees is a social leveller.

nificant factor, for a mismatch variable cannot be generated without an adequate range of relevant reliable data. Efforts must be made to ensure that data-gathering institutions show greater willingness than in the past to elicit the information that researchers need, such as the skill level required for individual jobs. This problem has already been recognised (ILO, 1998, p.90); a fair degree of patience is likely to be needed, however, before this aim is achieved.

5.2.3 International comparative studies

There are studies in which findings from various countries are put together and some in which the researchers' own empirical comparisons are drawn.

Examples of the first group are the publications by Suda (1979),[59] Teichler (1988), Hofmann (1995) and more specifically those of Hartog (1997), Büchel and Weißhuhn (1997c), Borghans and de Grip (1999), Tessaring (1998), Büchel (1998b), and Groot and Maassen van den Brink (forthcoming). These studies provide quite general information on various research findings in an international context.

Studies in which direct international comparisons are drawn in the domain of overqualification have so far been limited to comparisons between the country in which the researchers are interested and the United States, which serves as the reference country. Almost all such studies compare Germany with the United States.

Büchtemann et al. (1993) presented a comparative study on career starts in Germany and the United States. Their study analyses data from the PSID and GSOEP. Matches and mismatches are only one aspect of this wider-ranging study. The study by Daly et al. (1997, revised in Daly et al. (forthcoming)) uses the same databases to examine the income effects of deficit and surplus components of human capital along with the returns to qualifications which are actually needed for a person's job. In so doing, it follows the approach established by Duncan and Hoffmann (1981). The authors are interested in ascertaining whether structural changes in the U.S. labour market have a greater impact on results than structural differences between the countries under examination. Astonishingly close analogies emerge in the findings for Germany and the United States; the key finding of the study is that similarities between the nations are more pronounced than the similarities between the U.S. findings for different points in the time series.

Büchel and Witte (1997) analyse the effects of overqualification in the initial phase of employees' careers. They use the longitudinal structure of the 'High-School & Beyond' data sets and the GSOEP. Here too, the two countries under scrutiny are remarkably similar in structural terms. The studies by Szydlik (1997b and c and, to a certain extent, a), are also based on information from the PSID and GSOEP. While the aforementioned studies arrive at similar overqualification rates in the United States, the identified percentages of underqualified workers are strikingly lower than those calculated by Daly et al. (1997, Table 1, p.27).

Szydlik (1998) examines the overqualification of immigrants in Germany and the United States. But this once again begs the question how, given the extremely wide divergence between national training systems in terms of quality, anyone can hope to achieve comparability between the formal vocational qualifications that immigrants have obtained in their own countries. Witte (1999) examines the development of overqualification among young people in Germany and the United States; unlike Büchel and Witte (1997), this study bases its analysis of the U.S. situation on PSID data. The study by Büchel and Weißhuhn (1997b) provides a summary in German of the main elements contained in the previous studies by Daly et al. (1997) and Büchel and Witte (1997).

Cohn and Ng (1999) as well as the more fully elaborated version of this study by Cohn et

[59] The Suda study is listed here with certain reservations: while the theoretical part of this first study deals explicitly with overqualification, the findings presented in the empirical part are strangely unrelated to the theoretical part.

al. (1999) examine overqualification in a comparison between the United States and Hong Kong. What seems at first sight to be a rather exotic research project actually produces remarkable results. In fact, the standard pattern that is familiar to us from Western research literature also applies to Hong Kong: as a rule, overqualification is more frequently observed than underqualification, older employees are more often underqualified for their jobs, while younger employees are more likely to be overqualified, and the Duncan and Hoffmann findings on the returns to surplus and deficit years of schooling, which were first published in 1981 and have since been confirmed in numerous studies, are likewise found to hold true for Hong Kong.

The presentation of this literature survey has also shown up major research gaps. An important research perspective for the future relates to the need to achieve mutually compatible national data sets on mismatches and to analyse them on the basis of a standardised examination model. Only in this way can institutional and regional effects be satisfactorily isolated; a comparison between individual studies for various countries cannot achieve this because of the widely divergent measurement methods.

6. Overqualification and unemployment: The case of Germany

The purpose of this empirical section is to present some examples, with the aid of a few indicators, of links that exist between overqualified and unemployed status.

In subsection1.2 above, a methodological affinity was highlighted between overqualified and unemployed status within the labour market. The essence of this affinity is that people in both situations are unable to capitalise fully on their certified vocational qualifications in the labour market. The 'skill spill' in the case of overqualified workers amounts to $x\%$, where x is only indirectly determinable – by means of an income analysis, for example – but is substantially higher than zero. In the case of jobseekers, the spillage factor is 100%. If we assume, for the sake of simplicity, that the skill spill in the case of an adequately employed person is 0%, the 'middle' ground of overqualification which lies between adequate employment and unemployment must be observable within those social categories that unemployment literature identifies as clearly disadvantaged.

6.1 Research approach

6.1.1 Database

The measurement strategy introduced in the following paragraphs is based on data from the German Socio-Economic Panel (GSOEP) administered by the German Institute for Economic Research (*Deutsches Institut für Wirtschaftsforschung – DIW*) in Berlin. This set of data, collected from representative samples of the population resident in the Federal Republic of Germany, contains a wealth of longitudinal information on households and individuals. The initial sample in 1984 comprised almost 6000 households. The head of each household was given a questionnaire covering the whole household. All members of the household aged 16 or over (more than 12000 individuals) were also given a separate personal questionnaire seeking factual information and opinions on many aspects of their lives, especially education and employment.

The households and individuals in this sample are surveyed at yearly intervals. The database is constantly being widened as household members leave to start new households, as new members move into panel households and as younger members of the household reach the survey year in which their 17th birthday falls.[60]

Information on the education and training of foreigners

The vast majority of the foreign nationals who are GSOEP respondents are first-generation foreigners, in other words the 'guest workers'

[60] For more extensive information, see Projektgruppe Panel, 1995.

941

who were encouraged to come and work in Germany. In the present context, these people form a special group in the sense that they underwent schooling and vocational training in their native countries. There is only rudimentary information available on their educational and training qualifications. This information is not comparable with the very precise details elicited by the questions that are addressed to German respondents about their education level. Moreover, the education systems of the various countries of origin are so highly disparate that identical response patterns can rarely be taken to mean equivalent levels of qualification

The conclusion we must therefore draw from this situation is that it is impossible to measure the degree of mismatch for foreign workers if they have been trained in their native countries. The aforementioned heterogeneity of training courses in their countries of origin is not the only reason; another factor is that the GSOEP question equates the various levels of job requirement with German educational certificates. No very convincing attempts have yet been made to solve this compatibility and validity problem adequately (Szydlik 1996a);[61] Szydlik's exorbitant assessment that around 60% of all 'qualified' foreigners are overqualified will certainly raise eyebrows at the very least (Szydlik, 1996a, p.667; see also Szydlik, 1997a, p.17).

In the light of these considerations, the categorisation of job/education matches in the following paragraphs will only apply to those foreigners who have undergone at least their vocational training in Germany. The problems outlined above with regard to information on immigrants' education levels also apply to other databases, but overqualification researchers have yet to respond to them with the necessary sensitivity (see the criticism in point 5.2.1 above of the methodology applied to immigrant studies).

General case selection

All members of the sample who were in the labour force at the time of observation are categorised. People in full-time employment, regular part-time employment, minimal employment, and involuntary unemployment (including the hidden labour reserve) are examined, except in cases where the employees are still in full-time education, since there will be no 'definitive' information on vocational qualification in such cases. For the same reason, internees, voluntary workers and people in similar occupational situations are excluded from the analysis, as are those of retirement age (65 and over). Since people who have no vocational qualifications at all cannot by definition be overqualified, they too are excluded from the categorisation (cf. Witte and Kalleberg, 1995, p. 308, for an analogous approach). With respect to the latter selection, an exception is made for the step of analysis resulting in Table 1.

The considerations described above form the basis of the condition that only people who have received vocational training and/or higher education in Germany are taken into account. Migrants who moved between East Germany and the Federal Republic are also excluded from the analysis.[62] Because of the categorisation rules governing the assessment of overqualification (see point 6.1.2 below), it is also necessary to exclude those few people for whom no information on vocational qualification, job-requirement level or occupational status is available.

6.1.2 Categorisation of overqualification

Because of the superiority of the subjective approach to the 'objective' DOT/GED system, as discussed in point 4.1.2 above, the strategy presented below for the measurement of overqualification is based on the former. The

[61] Szydlik writes, 'Admittedly, knowledge and skills acquired abroad cannot be unequivocally evaluated' (p.664); however, the continuation of his study, which compares the job/training matches of Germans and foreigners, is evidence of such an evaluation being undertaken in spite of this acknowledged obstacle; indeed, the evaluation is at the very heart of this particular study.

[62] For the rationale behind this exclusion, see Büchel, 1998b.

strategy takes account of the objections that have been raised about the subjectivity of the collected information on job-requirement levels by validating reported information on occupational status.

This generation of the mismatch variables from three, rather than the usual two, initial indicators is what gives this categorisation system its innovative quality. It does, admittedly, create two additional categories: implausible combinations (of job-requirement level, formal qualification and occupational status) as well as a 'grey area' (Hecker) or 'mixed category' (Plicht et al., 1994), in which the three indicators referred to above cannot clearly signal a match or mismatch, even though there is nothing recognisably inconsistent in the data reported by the respondent.[63]

One problem with the measurement strategy is therefore that the scope of this new mixed category scarcely lends itself to evaluation in the framework of overqualification research. This disadvantage is more than offset, however, by a sharper distinction between adequate employment and overqualification.[64]

The GSOEP does not ask directly whether a respondent's job is commensurate with his or her training but merely asks about the requirements of the person's job. The question 'What type of training is normally required for the job you do?' is accompanied by the following graded response categories: 'No special training required', 'Only a short induction on the job', 'A lengthy period of coaching at my place of work', 'Attendance at special theoretical or practical courses', 'A certificate of vocational training' and 'A university or college degree'. It is permissible to choose more than one response. Pre-tests, however, have shown that multiple responses, which are in any case quite rare, almost invariably involve a combination of 'A certificate of vocational training' and 'A lengthy period of coaching at my place of work' or else the requirement category 'Attendance at special theoretical or practical courses' in conjunction with any of the other options. This means that we can record the most demanding reported requirement without sacrificing any very significant information.[65]

By means of a comparison with the acquired formal vocational-training qualification,[66] the degree of congruence between job and education can be directly determined; the disparity between the employee's formal qualification and the job requirements – at least for people with the same category of formal qualification – can then be graded, i.e. assigned to one of a number of bands in a 'skill spill' scale. Since the pre-tests that were conducted as part of the data-verification process high-

[63] To define the mixed category, we must first conduct pre-tests (which are not documented here), using group-specific occupational and income information.

[64] A further residual category, created by the presence of a missing value in one of the three indicators required to generate the mismatch variables, is no different in methodological terms to an equivalent category based on a conventional two-variable approach but is made somewhat larger by the addition of the third variable. The information on occupational status is not regarded as sensitive data and is seldom posted as a missing value in the GSOEP.

[65] In conjunction with the income distribution for each category and the structure of the job classifications in each category (on the basis of the three-digit ISCO codes), summaries were produced in advance for each of the requirement levels. These pre-tests revealed, for example, that the occupational and income structure for the two requirement levels 'A certificate of vocational training' and 'Attendance at special theoretical or practical training courses are similar, in the same way as the structures for 'No special training required' and 'Only a short induction on the job' resemble each other. For that reason, each of these response pairs is bracketed together.

[66] Following similarly structured pre-tests, the levels of formal qualification are aggregated. The certificate of vocational training, which is the general category for those workers whose qualifications are non-academic, covers those who are qualified master craftsmen, as is common practice; graduates of universities and colleges of higher technical education (*Fachhochschulen*) are also bracketed together in the customary manner, which reflects the fact that no distinction is made between these two levels of qualification on the job-requirement side.

lighted individual borderline cases straddling two categories as well as a number of inconsistencies, other particularly detailed information on the respondents' occupational status from the GSOEP survey is included in order to determine the mismatch variables.

The following categories are thus created: '(definitely) overqualified', 'degree of mismatch not clearly determinable' (a mixed category which is wisely excluded as a rule from evaluations of job content), '(definite) congruence between job and education', 'implausible combination of the three generating variables' and 'at least one missing value among the three generating variables' (an indeterminable degree of mismatch is also classed as a missing value).[67]

The use of separate classification models for western and eastern Germany takes account of the different educational certificates in the former East and West Germany.[68] The classification model for western Germany with the combinations of job requirement, formal qualification and occupational status is documented in Table 0 of the annex; for the classification models for eastern Germany, see Büchel, 1998b, Tables 4.2 and 4.3, pp.189 ff.

Identifying underqualification

Occasionally, when analysing the job/qualification fit, besides examining the category of adequate employment and that of overqualification, researchers also study a second misfit category, namely that of underqualification (see for example Daly et al. (forthcoming)). Such a situation occurs when a respondent does a job for which he or she does not possess adequate formal qualifications. This mismatch phenomenon occurs in a few exceptional 'rags-to-riches' careers, such as that of a dishwasher who works his way up to become a millionaire, but it has to be discussed on the basis of completely different premises to those that underlie the discussion of overqualification (cf. Alpin et al., 1998, pp.19-20). The theory of career mobility, for example, can explain overqualification but not overemployment; Sicherman (1991, p.109) explicitly addresses this point.[69] If researchers wish to examine mismatches in general, they must accordingly analyse and discuss the categories 'overqualification' and 'underqualification' in strict segregation. If, on the other hand, the emphasis is on the phenomenon of overqualification, as it is here, underqualification and adequate qualification can be lumped together fairly easily (for a similar approach, see for example Groot, 1993a, p.302, and Groot, 1996). In the following paragraphs, therefore, underqualified workers are assigned to the 'adequate employment' category; their common quality that interests us in the present context is the fact that they are identified as not being overqualified.

The degree of overqualification

The aforementioned grading scale for data (recoded into categories) on formal vocational qualification and job requirement can also be used to interpret and grade the newly created information on the discrepancy between these job and training levels. However, when the categorisation is subjected to further differentiation in this way, since the original variables were already highly aggregated, the resultant lack of sharp divisions between the categories demands a certain amount of caution from anyone who develops such a classification model or who subsequently interprets the findings it produces.

[67] For a treatment of the relatively small percentages that fall into this category and into those of 'implausible combinations' and 'missing values', see Büchel and Weißhuhn, 1997a, Tables A2-W/O-84, -91 and –93, as well as Büchel and Weißhuhn, 1998, Table A2-W/O-95.

[68] For the rationale behind this division, see Büchel, 1998b.

[69] Moreover, in European countries such as Germany, where certified vocational qualifications are major determinants of career prospects – in contrast to the United States, for example – underqualification is of minimal empirical significance. The 7% or so of German employees (1984 figure) whose educational certificates would not normally qualify them to pursue their current occupation have an average shortfall of only 0.7 years of schooling; the average qualification surplus for overqualified workers in 1984, on the other hand, exceeded two years (see Daly et al., 1997, Table 1, p.27).

While the division into appropriate employment and overqualification on the basis of the described categorisation system has certainly passed the validity test (cf. point 6.1.2 above), this cannot be said unreservedly of the degree of overqualification. Although there is no doubting the validity of the graded structure, the volume of the various skill spills cannot be determined with sufficient accuracy. For that reason the graded structure has only been used to obtain information on the volume of skill spillage in particular descriptive evaluations where incidence figures have been high (see for example Büchel, 1998b, Tables 5.1 to 5.3, pp.192 ff.).

For more ambitious research designs, such as the one illustrated in the present section, it therefore seems advisable to accept some loss of information for the sake of a more valid categorisation system; this, indeed, is done in most empirical studies on overqualification. Thus, if the sample is classified into valid categories, the result will be a dummy variable – overqualified: yes/no – for all workers with a formal vocational qualification or a university degree acquired in Germany.

Validity checking

The overqualification variable obtained on the basis of the categorisation principle described in the preceding paragraphs must be externally and internally validated before being used empirically.

The external validation is based on the comparability of the volume of underqualification revealed by one's own findings with the figures produced by other studies with different underlying research strategies.

The most comprehensive empirical study of the incidence of overqualification in Germany which is not based on the categorisation strategy described above is that of Plicht et al. (1994), although it only examines university graduates. The study involves a mixed category, which results in wide margins of error; within this framework it identifies graduate overqualification ranging from 8% to 17% (western Germany, 1991). The author of the present study, eliminating the mixed category, arrived at a value of about 14% (see Büchel, 1998b, Table 5.2, p.193), which is of the same order as Plicht, Schober and Schreyer, even though they not only use a different database but also pursue an entirely different approach, based on occupational categories.

In studies on overqualification among university graduates, which is the main focus of attention in the German discussion, percentages of under 10% to 15% (Tessaring, 1994a, p.49, Buttler and Tessaring, 1993, p.470, and Szydlik, 1996b, p.304) are identified, although no details are given on any part of the operations used to arrive at these percentages. The figure of 25% advanced by the Donors' Association for the Promotion of Science and the Humanities in Germany (Stifterverband für die Deutsche Wissenschaft, 1993, p.4) is surely overestimated and must be seen in the light of the general pessimistic tone of that publication. So if we exclude this last outlier, the external validation seems to have been generally successful.

For the purpose of internal validation, the validity of the construct used to distinguish between the characteristics of jobs done by appropriately qualified workers and those whose incumbents are overqualified is tested. If the categories really are sharply defined, considerable differences should emerge in terms of quality.

Irrespective of its theoretical derivation, the expectation that overqualified workers would be considerably worse off than adequately employed workers with similar formal qualifications is observably fulfilled in a highly refined examination of some 50 items in virtually all dimensions (Table 1 in the annex). The pattern of these findings leaves no room for doubt about the validity of the categorisation model.

6.1.3 The evaluation process

The empirical evaluations are based on the German Socio-Economic Panel (GSOEP – see point 6.1.1 above). West and East Germany are examined separately. The cross-section evaluations are based on the year 1995, while the longitudinal analyses use the period from

1984 to 1995. Specific details of the analytical methodology are contained in the various paragraphs on the interpretation of findings. The findings that are presented are largely derived from the multivariate analyses. For further descriptive information on the various stages in the evaluation process, the reader is referred to Büchel, 1998b. Overqualification is identified on the basis of the strategy described here in subsection 6.1.2.

Subsection 6.2 examines four subjective indicators that produce inferior values for jobless people compared with employees in the field of unemployment research, refining this strategy by applying a division into three categories – 'unemployment/hidden reserves',[70] 'overqualification' and 'adequate employment'. Subsections 6.3 and 6.4 go on to analyse transition patterns into and out of overqualification. Finally, section 6.5 examines the dynamics of income loss resulting from overqualification; the second part of this evaluation focuses on a comparison between losses resulting from periods of unemployment and periods of overqualification.

6.2 Subjective indicators: differences between adequate employment, overqualification and unemployment

6.2.1 Problem-solving capacity

In order to measure possible deprivation in people's everyday lives, the questionnaire asks respondents to what extent they agree with a number of statements, one of which is 'Things have become so complicated that I can barely cope'. Although this question has a recognisable dynamic component, which relates to external (social) development, the response can also apply to transitions from a socially secure status, such as training or adequate employment, to overqualification or unemployment and therefore seems to be a very suitable means of shedding light on the issue under examination here. The responses 'fully agree' and 'tend to agree' with the aforementioned statement are interpreted as indicative of limited problem-solving capacity. A probit model is used to identify the determinants of this limited capacity, special attention being focused on the three relevant categories of employment status.[71]

The findings set out in Table 2 of the annex show that the overqualified respondents' assessment of their own problem-solving capacity, controlled for important socioeconomic variables, including the level of formal education, actually places their expected 'middle' position far closer to that of jobseekers than to adequately employed workers. Although their problem-solving capacity is higher, on average, than that of jobseekers, the difference is not significant. By contrast, there are significant differentials between matched and mismatched employees. This finding is observable for both West and East Germany.

6.2.2 Morale

A person's awareness of a shortage or absence of demand in the labour market for his or her acquired vocational skills and qualifications will probably have an adverse effect on that person's morale, since the vast majority of people, or at least of those who wish to be economically active, place employment high on their list of priorities. For the purposes of the study, the sample is divided into those whose morale is high and others. In accordance with a strategy commonly used by the GSOEP to evaluate morale, based on an empirical distribution of responses on an eleven-point scale (0-10), people who rate themselves at points 8, 9 and 10 on the scale are defined as having high morale.[72]

[70] Hidden reserves of labour are those non-working members of the active population people who are not registered as unemployed but who report immediate readiness to take up employment. For the sake of linguistic simplicity, the 'unemployed or hidden reserves' category is abbreviated to 'unemployed' in the remainder of this section.

[71] The same type of econometric model is adopted in points 6.2.2 to 6.2.4 below.

[72] American researchers occasionally display less sensitivity in their choice of evaluation model. Hersch (1991), for example, evaluates her satisfaction scale, which is graded in the same way as the GSOEP model, on the basis of a regression equation.

The following may be deduced from the findings set out in Table 3 of the annex: both in West and East Germany, overqualified workers report not only significantly higher morale than jobseekers but also significantly lower morale than those workers whose jobs match their qualification levels. Whereas the overqualified workers are roughly equidistant from the other two categories on the satisfaction scale for East Germany, the morale of overqualified workers in West Germany is far closer to that of adequately employed workers than to that of jobseekers.

6.2.3 People's concern about their own economic prospects

In order to measure the respondents' assessment of their own prospects for the future, the questionnaire asks whether they are worried about a number of things, one of which is their own economic situation. The responses 'very worried' and 'rather worried' are interpreted as pessimistic assessments of the respondents' own economic prospects.

The findings are set out in Table 4 of the annex. Both in West and East Germany, overqualified workers are significantly more optimistic about their expected economic development than jobseekers but significantly more pessimistic than workers with well-matched jobs. One interesting point is that the same pattern emerges as was observed for morale, with equal spacing between the middle category and each of the other two for East Germany, whereas overqualified workers in West Germany are distinctly closer to adequately employed workers than to jobseekers in their assessment of their own economic prospects.

6.2.4 Political involvement

An important observation in the domain of political science is that unemployed persons are liable to turn their backs on the world of politics because they feel betrayed (the 'political apathy' hypothesis; see Büchel and Falter, 1994). This is liable to lead to in impaired functioning of the democratic system. Besides voting in elections, allegiance to a political party is regarded as an effective indicator of the extent of a person's political involvement. The purpose of these paragraphs is to extend the conventional examination of the connection between employment status and party allegiance to the category of unemployed workers.

The findings documented in Table 5 of the annex show that, controlling for major socioeconomic characteristics, the identification of jobseekers with the party system does not differ significantly from that of overqualified workers. The latter, however, demonstrate significantly less party allegiance than workers with good job/qualification matches.

All in all, the findings of section 6.2 confirm the hypothesis that the redundancy of an individual's marketable skills does not only have an adverse effect on his or her social well-being in the case of total redundancy (i.e. unemployment). Even partial redundancy of a person's skills, as happens in the event of overqualification, results in a diminished – and sometimes drastically diminished – quality of life compared with that enjoyed by employees whose jobs are commensurate with their qualifications. While overqualified workers are significantly better placed than jobseekers and significantly worse off than their adequately employed counterparts in terms of morale and perception of their own economic prospects, once the relevant data has been controlled for important socioeconomic characteristics, when it comes to their ability to cope with everyday life (at least for the time being) and their allegiance to political parties, however, overqualified workers demonstrate attitudes that are not far removed from those displayed by jobseekers, whereas people whose jobs fit their qualifications tend to be significantly closer to the 'social norm' in these respects.

6.3 Transition to inadequate employment

6.3.1 Preliminary remarks on the dynamics of individual overqualification

Following the presentation of the static perspective in the previous subsection (for a wider range of analyses see Büchel, 1998b),

the following paragraphs deal with the dynamics of changes of employment status at an individual level. Although in the medium term the percentage of overqualified employees in the German labour force has remained fairly stable (see Büchel and Weißhuhn, 1997a and 1998), we cannot rule out the possibility that, as with the phenomenon of unemployment, this overall picture of stability conceals a great deal of movement in and out of overqualification in the course of individual careers (cf. Groot and Maassen van den Brink, 1995, p.14).

Accordingly, the approaches adopted here are based on the longitudinal analyses that characterise modern unemployment research. This means that interest focuses on the phenomena of movements into and out of overqualification, which have seldom been dealt with in research literature, as well as on income effects of overqualification. The main points of interest are transfers in both directions between overqualification and the other main categories of employment status, namely work commensurate with qualifications, unemployment, other economic inactivity and full-time training. The main transition patterns are examined below.[73] When choosing suitable evaluation procedures, we have to remember that the information on job/training congruence is only available for one point in the year, in other words the time of the survey. Since some of the observation periods are very short (1991 to 1995 for the area of the former East Germany, as against 1984 to 1995 for western Germany), the use of hazard-rate models, which is actually the best way to proceed when dealing with this sort of question, would be ill-advised, even for discrete modelling. The use of the panel approach to process the relevant data is also out of the question at almost every stage of the evaluation, since the observed changes of employment status will normally occur only once, if at all, for each person during the examination period. Accordingly, models that control for unobserved heterogeneity would exclude most transitions from the examination, since observations with only one occurrence do not serve any explanatory purpose in this type of model. For that reason, the research designs of the various stages in the evaluation process must be conceived in such a way that the analysis can be performed with conventional probit or regression models.

Our first step is to examine the process whereby individuals become overqualified. This transition is identified when a respondent reports overqualification in a questionnaire after having reported a different employment status the previous year. These situations from which individuals enter into overqualification are the focal point of the present subsection.

6.3.2 Descriptive findings

Table 6 in the annex shows the types of employment status previously held by overqualified workers, broken down into percentage columns by regional labour market, qualification level and sex.

An examination of the totals column shows that the most common previous status of overqualified workers in both East and West Germany is that of adequate employment (just over 40% in each case). Outdated expertise and declining productive capacity may be mooted as reasons for this.[74] This transition pattern is far more characteristic of men than women, reaching a peak for highly qualified male workers in the former East Germany; this reflects a systematic downgrading process as part of the hierarchical 'cleansing' operation in the period following reunification. Nevertheless, this seems to refute the oft-repeated hypothesis that overqualification is chiefly a problem for married women who interrupt their careers for family reasons, with the result that their skills become rusty through lack of practice, leaving them no op-

[73] For more findings see Büchel, 1998b.

[74] See the analyses, broken down by age group, in Büchel and Weißhuhn, 1997a and 1998, which demonstrate a considerably higher percentage of overqualified employees in the oldest age bracket, especially among non-graduates in western Germany.

tion but to re-enter working life at a level for which they are overqualified; while this explains some overqualification, it is clearly not the only explanation.

In western Germany, almost a quarter of those who take up underskilled work are unemployed jobseekers. In the East, this percentage is considerably higher, with some 40% of overqualified recruits having been unemployed the year before. This demonstrates the nature of overqualification as an alternative to unemployed status; even though private placement services for unemployed people are gradually gaining in importance, this sizeable movement of labour from unemployment into overqualification is due not least to the restriction by the national employment authority of the jobseeker's right to refuse job offers. The findings also testify to an abundance of flexibility on the part of jobseekers. They also reveal striking differences between regions and between levels of formal qualification; for example, underskilled jobs are a very important source of employment for East German workers with mid-range qualifications, whereas for West German graduates, especially males, overqualification has far less empirical significance.

'Spontaneous' transitions from economic inactivity to overqualification by people who are not actively seeking work (i.e. who are not registered as unemployed) are only made to any great extent by West German women with mid-range qualifications. West German women graduates lag far behind in second place. Among West German men and East Germans in general, this form of transition has only marginal significance.

Approximately one in eight people take up an underskilled job on completion of a training course. This is the case in both western and eastern Germany. This type of transition has become disturbingly common among West German graduates, both male and female. More than one in four West German graduates working overqualified took up his underskilled job immediately after obtaining their degrees; this situation is somewhat less common in eastern Germany and applies primarily to highly qualified women.

6.3.3 Multivariate findings

The reference category for our multivariate analysis was the length of time spent in one of the other types of employment status besides overqualification. The multivariate analysis of the descriptively acquired findings (Table 7 in the annex) produces a surprising picture in terms of the previous employment status of overqualified workers. Our first task, however, is to discuss the findings in relation to the control variables.

Clearly different behaviour patterns emerge for transitions to overqualification in eastern and western Germany.

In western Germany, first of all, more women than men take jobs for which they are overqualified. Reasons for this may be less employment-centred training courses, lower priority attached to careers, periods of economic inactivity for family reasons with the accompanying depreciation of human capital, etc. (see below). Older employees are seldom observed to make such a switch. It may be expected that, on losing jobs commensurate with their qualifications, for example, older employees may be more inclined to take advantage of early-retirement packages than to 'struggle through' to retirement in an underskilled job.

Transitions to overqualification are more frequently observed among individuals with poor school records than among those with better school qualifications. Training in a technical college (*Fachschule*), which has traditionally been employment-based, affords protection against overqualification, as does civil-service training, which is normally followed by appointment to an appropriate post in one of the public authorities. Individuals who have successfully completed an apprenticeship are also less liable to become overqualified than those who have undergone other forms of vocational training.

A surprising result emerges for graduates of higher technical colleges (*Fachhochschulen*), who are observed to be more prone to overqualification than holders of apprenticeship certificates. Respondents who attach low

priority to a successful career are also over-represented among the newly overqualified; the undemanding nature of their jobs corresponds to their own level of demand for professional success.

As the regional unemployment rate rises, the probability of a transition to overqualification is reduced. There are two conceivable ways of explaining this: either unskilled and semi-skilled jobs are disproportionately rare in a tight job market or else individuals who cannot obtain an appropriate job are more inclined simply to register as unemployed, the social stigma of unemployment being diminished as the local jobless rate increases.

In the territory of the former East Germany, the control variables exert an influence in several different ways. Besides older employees, those in the youngest age bracket also move into overqualification less frequently, which means that transitions into overqualification are typically made by workers in the middle age groups. While there are no gender-specific differences of the sort that exist in western Germany, people who only have the certificate awarded on the successful completion of eight years' schooling are also more likely to be overqualified. Another conspicuous feature is the over-representation of highly qualified employees, who were the victims of large-scale systematic downgrading. The reason given for this measure by employers is the discrepancy between the high level of employees' formal qualifications, which often depended on a certain degree of identification with the former Communist system, and the actual market value of these qualifications in a competitive economy. In eastern Germany too, transitions to overqualification tend to occur more frequently in areas with relatively low rates of unemployment. Moreover, such transitions are more common in rural than in urban areas, in contrast to the older federal states.

As for the previous employment status of overqualified workers, once the quite heterogeneous descriptive findings have been controlled for important socioeconomic characteristics, surprisingly similar structures emerge for eastern and western Germany. Compared with a transition from appropriate employment – the reference category – a switch from unemployment or the hidden labour reserve is a far more frequent occurrence. Direct transitions from training are also significantly more common than those from appropriate employment, albeit by a somewhat narrower margin. In the west of Germany, moreover, even transitions from other forms of economic inactivity happen more often than transitions from a matched to a mismatched job; in the eastern part of the country, however, other forms of economic inactivity play an insignificant role as a source of overqualified labour.

This shows that the descriptively identified 'typical' switch from a well-matched job to a mismatch correlates highly with major socioeconomic characteristics. Controlling for these, we see that this form of transition is actually rather untypical. Hence, overqualification in Germany does not primarily take the form of worker dequalification, for example in the wake of rapid technological change, with the accompanying devaluation of knowledge and skills; on the contrary, underskilled jobs tend to be accepted by those who are economically inactive in whatever form. The motives, which are surely many and varied, for taking such jobs are still uncertain at this stage of the analysis, but more precise information on these will emerge on further examination.

6.4 Selected transitions from overqualification

Our second step involved an examination of the process whereby individuals cease to be overqualified. Here too, the various forms of employment status that were discussed in connection with transitions to overqualification were the main focus of attention. Particular importance attached to the question whether overqualified workers manage to step up into jobs that are commensurate with their training or whether they are more likely to slip down into unemployment.

Descriptive findings

The findings presented in Table8 of the annex reveal considerable differences between eastern and western Germany.

The most commonly used exit door from overqualification in western Germany leads to appropriate employment. A conspicuously high number of male graduates make that transition. While this can be used as an indicator of the capacity of the career mobility theory to explain overqualification, it is not evidence in itself, since we are only looking here at those who move away from underskilled jobs, not at those who remain in them. A very similar pattern emerges, albeit at a lower level, in eastern Germany, but this time the main exit route leads to involuntary economic inactivity, i.e. unemployment or a place in the hidden reserve of labour. This type of transition mainly affects people with mid-range qualifications as well as women with higher levels of qualification. In the west of Germany this downward transition is mainly observable among men with vocational diplomas; it hardly ever affects male graduates and seldom happens to female graduates.

There is also a wide East/West disparity in the case of transitions into voluntary economic inactivity. In western Germany, this transition is typically made by women who give up overqualified work. Irrespective of their level of qualification, some 40% of women who give up underskilled jobs move into voluntary economic inactivity. In eastern Germany, however, this type of transition is not very significant. Percentages vary little among the compared groups, reaching a peak of 10%.

A switch to full-time training is not a characteristic move for those who give up inadequate employment. Neither in the East nor in the West of Germany does this figure reach 10%. Whereas in eastern Germany women are more likely to make such a move, whereas in the West German labour market this transition is chiefly made by men, with holders of academic degrees more frequently being given the opportunity for full-time training (presumably in the form of a second degree course or professional training) than holders of vocational diplomas.

The following paragraphs will take a closer look at transitions from overqualification to the two types of status that are of most interest to us in the context of this study, namely unemployment and adequate employment. For more detailed analyses, see Büchel, 1998b.

6.4.1 Transition to unemployment

At this juncture a two-step evaluation was undertaken with a view to answering the following questions:

a) Do people in underskilled jobs run a greater risk of unemployment than those in appropriate jobs?

b) Does the acceptance of an underskilled job protect people who have lost an appropriate job from subsequent unemployment? Or, to put it another way, does overqualification offer such people a genuine alternative to unemployment in the longer term?

Transition to unemployment from inadequate or adequate employment

The aim here was to examine whether adequate employment affords better protection than overqualification against the risk of unemployment. In the model that was used, the alternative to a transition to unemployment was continued overqualification.

The findings set out in Table 9 of the annex reveal considerable differences between western and eastern Germany in terms of the risk of losing a job and becoming unemployed. They do concur, however, on one key point, namely that this risk is significantly higher for employees in underskilled jobs than for those whose jobs match their qualifications. The respective risk levels for these two groups diverge more widely in the East than in the West of Germany.

Transition from adequate employment to unemployment – directly or via overqualification

We wished to test whether the acceptance of an underskilled post by a person who had lost a job commensurate with his or her skills and qualifications was likely to protect that person against subsequent unemployment. To

paraphrase the question, we want to know whether overqualification is a genuine alternative to unemployment or whether it is liable only to postpone a descent into unemployment. Those people who remained in adequate employment over the observation period served as the reference category.

What the findings in Table 10 of the annex demonstrate is that people who take an underskilled job on losing an adequate job considerably reduce the risk of subsequent unemployment, particularly in western Germany. This may be deemed to indicate that acceptance of an underskilled job is a deliberate choice on the part of many people as an alternative to unemployment.

6.4.2 Transition to adequate employment

At this point a two-step evaluation was undertaken with a view to answering the following questions:

a) Are individuals more likely to obtain a job commensurate with their qualifications if they are overqualified or if they are unemployed?

b) Does an interim phase of overqualification make it easier for jobseekers to find a post that matches their qualifications?

Transition to adequate employment from overqualification or unemployment

The purpose of this stage in the evaluation process was to establish whether the fact that overqualified people already have one foot in the labour market gives them an advantage over their unemployed counterparts in the quest for adequate employment, assuming they are in competition for the same jobs. People who are economically inactive but not registered as unemployed or in the hidden reserve, or who have just completed a course of training were excluded from this evaluation. For unemployed jobseekers and overqualified workers together, we examined the probability of transition to adequate employment. The reference category comprised those who retained one status – unemployment or overqualification – throughout the observation period. Our primary interest was to discover whether and how a person's original status influenced his or her chances of making the transition to adequate employment. The findings are presented in Table 11 of the annex.

Overqualified workers find adequate jobs less frequently than unemployed jobseekers. The same pattern applies in both parts of Germany. It does not seem easy to interpret these findings. It is conceivable that people in underskilled jobs are under less pressure to find appropriate jobs than those with no job at all, since the job they have, inadequate though it may be, probably provides them with an income above that of unemployed jobseekers. Moreover, as has been shown, the category of overqualified workers includes some people who attach low priority to a successful career; it is conceivable that such people may not be looking for a job that is more commensurate with their qualifications or at least that their efforts to find a better job may be less than wholehearted.

To put it simplistically,[75] it may be said of unemployed jobseekers that their status tends to 'testify' to a disinclination to accept any old job – including, of course, underskilled jobs; it is therefore safe to assume a high degree of probability that their job search will be confined to educationally adequate employment, at least in the initial stages. What certainly emerges is that, when employers have job vacancies, they do not seem to let their choice of candidate be governed to any great extent by the stigmatisation effect of unemployment or by the positive signal of willingness to work 'at all costs' that is transmitted by applicants who are overqualified for their current jobs.

Transition from unemployment to adequate employment – directly or via overqualification

The next step was to undertake a more specific examination of the findings described in the previous paragraphs. To this end, jobseekers were studied with a view to ascertain-

[75] 'Simplistically' in the sense that we are assuming the availability of unskilled jobs at minimal wage rates.

ing whether they managed to find educationally adequate employment within a particular period – five years for western Germany and three years for the territory of the former East Germany. This means that transition patterns could be compared between the two parts of Germany but not the frequency of transitions. The question at the forefront of this examination was whether a transitional phase of overqualification is liable to serve as a 'bridgehead', in other words whether it helps jobseekers to gain a foothold in the labour market from where it is easier for them to move upmarket into the sort of job for which they are qualified (for a more general treatment of this question, see Büchel, 1994a).

The findings set out in Table 12 of the annex suggest that, if adequate employment is assumed to be the ultimate aim of a job search, a temporary 'makeshift' transition to overqualification tends, in both the East and the West of Germany, to be a 'dead end'. The dimensions of the estimated parameters indicate that a high volume of state dependence ensues from this situation.

6.5 Income effects of overqualification

There is already sufficient statistical evidence that overqualified workers earn lower incomes than workers with equivalent qualifications whose jobs match those qualifications (see section4 above), and this point need not be analysed any further here. What this subsection examines is the extent to which income growth differs between overqualified and appropriately employed workers.

6.5.1 Income growth among people who are initially overqualified

The first step was to compare the respondents' first reported income in the observation period (broken down by degree of job/training match) with their last reported income; in the case of the latter figure, the match/mismatch question was no longer relevant, because the analysis took account of any upward mobility from underskilled jobs.

In the evaluation, the initial amount of income was taken into consideration so that we could control for the fact that the lowest earners automatically stand a better chance of improving their income levels. The ratio of the last to the first reported income was selected as the dependent variable; these values were plotted on a logarithmic scale to adapt them to the model. Given the nature of the dependent variables, extraneous control for the length of the observation period was also required. In the vast majority of cases, the duration of this period equalled the number of years spent in employment. To control for untypical career histories, intervening periods of unemployment and other forms of economic inactivity were taken into account as additional covariates,[76] as were any years missing from the panel records.

The findings set forth in Table 13 of the annex present a very similar picture for eastern and western Germany in terms of the effect of adequate employment at the start of the observation period. Controlling for the initial income level, we see that the income curve for overqualified workers rises less steeply than for workers whose jobs match their training levels. So the former not only have to endure an income shortfall at any given time in respect of their unused skills and qualifications (see the literature cited in section4 above or, for Germany, Büchel, 1998b, Table 5.30, p.238, for example); in addition, the gap between their earning power and that of their adequately employed colleagues widens with length of service.

6.5.2 Erosion of human capital through overqualification

The second step involved examining whether a period of overqualification has the same sort of effect in terms of depreciation of human capital as a phase of voluntary or involuntary economic inactivity. This hypothesised affinity is based on the fact that 100% of a person's acquired human capital lies dormant during a phase of economic inactivity, while *x*% of it lies dormant during a phase of

[76] In this context, 'number of years' means the number of annual surveys in which a particular employment status was reported.

overqualification, x being situated somewhere between 0 and 100. Accordingly, the rate of skill depreciation resulting from overqualification must lie somewhere between the depreciation rate for an economically inactive person and the rate for a person in adequate employment.

Clearly, this hypothesis can only be tested if figures for initial and final income from adequate employment are available and if a phase of overqualification is identifiable at some time between the beginning and end of the observation period. In order to permit a direct comparison with the standard reference value, i.e. a period of unemployment, people with a history of adequate employment followed by a period of unemployment or a period in the hidden labour reserve then another period of adequate employment were included in the analysis. As in the previous step, the reported data were controlled for intervening years of voluntary economic inactivity and for any years that were missing from the panel records.

The findings presented in Table 14 of the annex confirm the aforementioned hypothesis, at least for western Germany.[77] In both parts of Germany, periods of overqualification sandwiched between periods of adequate employment adversely affect income growth. In the West, as expected, the depreciation rate is lower than that for voluntary inactivity (100% absence of training in occupational skills), which in turn is lower than the depreciation rate for unemployed jobseekers (100% non-use of skills plus additional downward pressure on wage demands). This accords with the expectations of the human-capital theory and may also be regarded as tending to confirm the typological affinity between overqualification and unemployment that was postulated in the introduction to the present study.

[77] The unexpected findings for eastern Germany have to be interpreted in the light of the particular situation that still obtains in the labour market there.

7. Conclusions

7.1 Methodological consequences for employment researchers

Conventional employment research, with its fixation on unemployment, underestimates the volume of skills and qualifications which education systems produce but for which there is no demand in the labour market. By including the hidden reserve of labour in analyses of this type,[78] employment researchers have already taken one major step towards more effective assessment of the efficiency of education systems and of the coordination problem between education systems and labour markets. The purpose of the present study has been to highlight the apparent indispensability of another step, namely consideration of overqualification as an additional category in its own right.

While the category of the hidden reserve has now found its way into official and semi-official statistics and has secured a permanent place alongside registered unemployment (see for example OECD, 1995b, pp.45 ff.), either the overqualified percentage of the labour force is tacitly omitted (as in the official German employment statistics) or its omission is ascribed to unresolved measurement problems: 'Invisible underemployment [i.e. the percentage of the labour force who are overqualified for their jobs] ... by its very nature is difficult to measure. For this reason, it is not discussed' (OECD, 1995b, p.45).

A first attempt to close this unsatisfactory information gap was made by the German Ministry of Education, Science, Research and Technology, which began to commission biennial standardised reports on the extent and structure of overqualification in Germany (see Büchel and Weißhuhn, 1997a and 1998).

[78] In this context, however, employment researchers usually disregard the phenomenon of 'visible underemployment', i.e. the fact that numerous employees would like to work longer hours (see OECD, 1995a, p.45). This is another situation in which people are prevented from capitalising fully on their skills and qualifications.

The measurement strategy used in these reports, however, relates closely to the specific characteristics of the German education system and cannot answer Rumberger's call for the development of an internationally comparable indicator (Rumberger, 1994, p.281). Given the wide diversity of national education systems, more could surely be achieved with measurement strategies (less precise though they would necessarily be) which were based on training duration and could therefore be integrated into an extended human-capital approach of the type described in Duncan and Hoffmann (1981).

The extensive omission of the phenomenon of overqualification from European employment research creates problems, some of which are critical, with regard to the validity of the applied examination method. This is especially conspicuous in research into the demand for skills and qualifications.

The problem lies in the almost universal practice of implicitly equating the level of skill required for a job with the formal qualification of the incumbent. A typical statement appears, for example, in iwd (1997): '*Low-skilled workers* are the great losers of structural change. Many *unskilled and semi-skilled jobs* in industry have already gone' (p.6). This assimilation would only be valid if overqualification did not exist in the labour market. As long as it does exist – as it does in every industrialised nation of the Western world – and as long as the incidence of overqualification exceeds that of underqualification, there will be more unskilled jobs than unskilled workers. Disregarding this fact can lead to various miscalculations, for instance to overestimation of the dynamics of structural change and the accompanying loss of unskilled jobs. Likewise, the job prospects for unskilled and semi-skilled workers will be systematically presented in an excessively gloomy light. It must be remembered that, alongside unskilled and semi-skilled workers, there are also overqualified workers in semi-skilled and unskilled jobs; the total number of all these workers represents the actual number of unskilled and semi-skilled jobs in the labour market (and the economic demand for such jobs). At the same time, the demand for higher qualifications is systematically overestimated. Certainly the demand for overqualified workers proves that employers expect an overqualified worker to outperform an adequately qualified worker in an equivalent job. The fulfilment of this expectation can be demonstrated empirically (Büchel, 1999a). Nevertheless, it remains undisputed that, where two workers have the same qualifications, the one whose job matches those qualifications will normally be more productive than the one who is formally overqualified for his job.

Although it may be the case that technological progress and the accompanying structural change are raising the average skill level required for jobs in the European market, if the level of demand is deduced on the basis of employees' formal qualifications, the education boom and the subsequent rise in the average educational attainment level of the labour force will inevitably be the source of misinterpretations unless due account is taken of overqualification. Many different sources of error affecting the accuracy of the predicted demand for labour were quickly recognised and discussed (see for example Tessaring, 1982, or, for a more general treatment, Mertens, 1982, pp.145ff. and pp.563 ff.). However, the serious prediction problems arising from the implicit assimilation of formal qualification and job requirement, problems with consequences for educational planning that must not be underestimated, especially in the domain of higher education, are still only being explicitly discussed in isolated studies (see Adamy and Bosch, 1990, p.118, von Henninges, 1996, p.78, and Weißhuhn 1996, p.86).

Conventional forecasts of educational requirements, i.e. predictions based on the *ex post* development of the labour force's formal qualification structure and extrapolating future needs on that basis (see Tessaring, 1994b, Weißhuhn, 1996, and Weißhuhn *et al*, 1994) plainly cannot do enough to satisfy the need of prospective students and trainees for information on their future employment prospects. One alternative is the production of studies on the fate of graduates in each institution, broken down by disciplines. At least in the academic

field, the authors of these studies are gradually moving away from the practice of assessing educational success on the sole basis of the 'employed'/'unemployed' dichotomy and are giving increasing consideration to the quality of the jobs that employees do.

The body of literature on this subject, however, is still far from providing reliable and comprehensive information for prospective students and trainees, even though researchers did not take long to start thinking about strategies for the provision of such information (see Chaberny and Schober, 1982). There is no comprehensive reporting system on all possible training courses at every educational institution in Europe, nor are there any studies on the fate of graduates in the longer term or standardised measurement systems, without which the opportunities and risks of different training courses cannot be compared, while there is also a fairly general lack of academic quality among the few studies that are available at the present time (cf. point 5.2.2 above).

Moreover, even with the present research design, as in the case of conventional educational needs forecasts, it is only possible to draw reliable conclusions for the future from the past if the basic conditions remain constant in the medium term. The prospects of finding a job with a particular qualification are certainly a good example of the sort of information that cannot normally be provided because of changes in these basic conditions. Prospective students and trainees would generally be well advised to choose their courses on the basis of their intrinsic interests than to be guided by predicted labour requirements or the findings of studies on the employment status of previous graduates. Be that as it may, it is still a fact that demand predictions which do not address the problem of overqualification are plagued with an even greater degree of uncertainty than those which are adjusted for overqualification.

On the basis of a few classic questions from the field of unemployment research, the present study has shown that the phenomenon of overqualification, because of its typological affinity with unemployment, can be analysed effectively with the instruments of unemployment research. However, the quantitative evaluation of the representative data sets that are currently available in the field of employment research reaches its limits when it comes to examining precisely what induces employees and employers to consent to overqualification; the present study could only provide some initial leads. A qualitative approach emerged here as an effective means of evaluating the motivation of employees.

The findings of the only studies in which this type of approach was adopted (Schlegelmilch, 1982, 1983a, 1983b and 1987) cannot be generalised because they are restricted to one level of qualification and because their sample is unrepresentative and too small. None the less, the approach displays an interesting analytical thrust, which is able to offer insights that cannot be gleaned from the findings of conventional analyses; this makes it a suitable medium for imparting fresh momentum to quantitative research based on representative data by broadening the scope of surveys to include aspects such as the intrinsic motivation of people to do jobs for which they are overqualified. A first movement in this direction is made in Büchel, 1998b.

With regard to closer investigation of employers' motivation to recruit overqualified job applicants, Haugrund (1990) has been the only author so far to highlight this specific research angle. However, the fact that his survey was limited to a few firms in a single industry and only examines technical staff with fairly high skill levels means that his findings are not amenable to generalisation either. More comprehensive future studies with a broader database, designed to follow up this preliminary work, could deliver important new information.

7.2 Implications for education and employment policies

7.2.1 Implications for education policy

The findings of this study give rise to different postulates for the domains of vocational education and higher education, because these two parts of the education system normally have widely different funding struc-

tures. The German *Duales System* of alternating practical and theoretical vocational training of apprentices is discussed in somewhat greater detail here, because it is often presented as a model system by numerous public policymakers in the field of vocational training in other European countries.

Dual vocational training

In relation to the German dual system, Neubäumer (1993) found that those industries which experience difficulties in recruiting skilled workers tend to train in excess of their needs. These are generally industries with largely unattractive and undemanding jobs. Many of the trainees who are surplus to requirements have no option but to move to underskilled jobs.

The findings of a study by the present author (Büchel, 1998b) confirm this effect, whereby individuals who have completed the basic level of secondary education and possess a certificate of apprenticeship run a disproportionately high risk of overqualification. This shows that the quality of training in the German dual system is far from being as uniform as the advocates of this very characteristically German system of vocational training frequently assert and as might be suggested by the annual discussion that takes place in late summer regarding the situation in the apprenticeship market, a discussion which tends to focus exclusively on the number of training places available and the demand for those places.

The same findings prove, as did those previously obtained by Hofbauer and Nagel (1987), for example, that the volume of skills and qualifications which the system produces but which the labour market does not use has assumed menacing proportions, whether this means that the jobs to which those skills and qualifications relate are insufficiently attractive or that there are simply no suitable jobs available. There is a need to identify the reasons for this inefficiency of the dual system and to seek ways of improving it.

First of all, the perennial criticism of excessive specialisation in the vocational-training system, reflected in a huge number of distinct trades, remains valid today. This specialisation makes it more difficult for individuals to use their acquired skills if they subsequently have to work outside the trade they have learned. It would make better sense if emphasis were placed on imparting selected key skills, which should certainly be relevant to groups of specific occupations; specialisation should be delayed until trainees have begun their careers, when the knowledge and skills required for the performance of specific tasks should be imparted through on-the-job training, as is done in the United States. This point has now been taken on board by education policymakers and initial moves have been made in the postulated direction.

In addition, training courses which are out of date and for which there is consequently little or no market demand should be discontinued, and at the same time courses should be developed in new marketable fields of activity. This process currently takes too long, not least because of the strictly regulated procedures and the large number of interest groups involved in decision-making. These problems are now the subject of critical discussion in Germany, and some very promising proposals have already emerged.

Another strategy focuses on the improvement of the existing information system regarding the marketability of the various training courses. The information provided by careers advice centres is all too frequently confined to a description of training curricula with no details of career prospects. The latter information should be provided *before* prospective trainees choose their courses. Hofbauer and Nagel (1987) recommend that advice should be available from the employment authorities in the final year of technical college (p.45), but this is clearly the wrong time. By then the fatal chain of events depicted by Neubäumer (1993) has already been set in motion; apprentices training for problem occupations realise too late that they have made the wrong choice.

If the information situation were improved, not only in terms of training curricula but also in terms of subsequent career opportunities,

in accordance with the strategy presented by Chaberny and Schober (1982), this would alter the training decisions of school-leavers, thereby influencing the content and quality of employers' training programmes and of the trainees' subsequent jobs. It must be borne in mind, however, that the effectiveness of such a strategy will diminish as the process of change on the demand side of the labour market gathers momentum.

The emphasis in the present study is on overqualification among non-graduates. However, the implications for this level of qualification cannot be identified in isolation, not least because the general public and the academic world closely associate mismatches in the labour market with overqualified university graduates. For this reason, the following paragraphs deal briefly with the implications of the overqualification problem for higher-education policy.

Higher education

In the domain of higher education, as in the dual system of vocational education and training, the risk of overqualification is observably dependent on the profession for which the student is training or the discipline he or she is studying (see for example Büchel and Matiaske, 1996, and Alpin et al., 1998). Although in Germany university graduates in general run a somewhat lower risk of overqualification than holders of vocational diplomas, for example, once the data have been controlled for the main personal characteristics the differences become insignificant. Indeed, graduates of higher technical colleges (*Fachhochschulen*) – again after controlling for personal characteristics – are significantly more prone to overqualification than holders of vocational diplomas (Büchel 1998b, Table 5.8, p.204). There is also evidence to suggest that the problem of overqualification will become more acute for German graduates – especially women graduates – in the future (see Büchel and Weißhuhn, 1997a and 1998, as well as Büchel, 1996a).

The overqualification situation described in this study gives rise to certain postulates with regard to education policy, but these cannot be formulated without reference to the specific discussion on graduate overqualification. The problems reflected in the findings that have been obtained are subject to widely varying interpretations, depending on the observer's perspective. Nevertheless, the question arises, at least in economic terms, as to whether the skills demanded by the labour market could not be provided by the education system with less effort and at less expense. This question sheds light on three of the main reasons for the present glut of academic qualifications.

First of all, the fact that higher education in the vast majority of European countries is largely funded from the public purse creates profound external effects. The excessive cheapness of university study by market standards systematically produces a surplus of qualifications; the introduction of tuition fees, which are of mere symbolic value when compared with the actual cost of university education, will do little to change this.

Secondly, an academic degree may be regarded as the most valuable formal qualification. According to the postulates underlying the job-competition model, it places graduates quite near the front of the labour queue. This sort of position remains sought after, even when the returns to education and employment prospects in general decline, for example because of a glut of academic qualifications or a drop in the standard of university education. The desire to secure the highest possible educational qualification in a discipline selected on the basis of personal preference therefore remains rational from an individual point of view, even in a climate of deteriorating career prospects (for a detailed treatment of this aspect, see Zwick (forthcoming)); the fact that the aggregate macroeconomic effect of such a strategy may be to reduce the general level of well-being is unlikely to have any bearing on the educational decisions that individuals make.[79]

[79] On the competing aims of the manpower-requirement approach and the social-demand approach, see Kühlewind and Tessaring, 1975.

Thirdly, the positive signal that is emitted by the highest vocational qualification is also very desirable in terms of a person's social profile, irrespective of employment status, and this also stimulates demand.

Demand for the top educational qualifications may therefore be expected to keep on rising as long as the educational attainment seems to be 'cheap' in terms of the required personal effort and financial outlay. This raises the question as to how education policy can be used to combat the resultant excess demand for academic qualifications which is gradually leading more and more university graduates into overqualification.

A restrictive policy could begin with the introduction of tuition fees at market rates. These fees, however, would have to be based on the actual cost of training, unlike the models that are most often discussed at the present time. In terms of market economics, there is no logical reason why the same fee should be payable for a (cheap) law course as for a course in medicine, for example. In addition, the intended effect of reducing the level of demand for education can only be achieved in conjunction with an absolute repayment obligation which must apply irrespective of subsequent career success, although provision would certainly have to be made for a mechanism designed to avoid social hardship. The overall effect of such linkage between the demand for education and self-financing would be to reduce the size of the group of overqualified employees who report that a successful career 'is not so important'.

This, however, raises the problem of the social acceptability of tuition fees at market rates, which, as the current public discussion has shown, is a tough nut to crack. A more realistic means of restricting the demand for education would seem to be a reform of the university course and examination regulations based on the modular acquisition of certificates (for a discussion of this option in the German context, see Büchel and Helberger, 1995).

As in the domain of non-graduate employment, the proposed academic reforms would have to be accompanied by a further improvement of the system whereby prospective students can obtain information on career prospects for graduates of specific departments and institutions in each federal state; a new certification system would also entail the provision of information on the various types of certificate offered by each department and institution.[80] This might prevent prospective students from choosing courses in 'high-risk' subjects, depending on the level of risk they were prepared to contemplate and on whether the 'low-risk' option was overridden by their flair for a particular subject, which would still have to be recognised as a legitimate selection criterion. The studies on graduates in employment that exist at the present time (see subsection 5.2 above) could serve as useful methodological guides, but the cumulative data they contain are still far from constituting the desired comprehensive information mechanism.

7.2.2 Implications for employment policy

Compared with the range of political mechanisms that are available in the educational field, the armoury of employment policies is less well equipped to improve the general match between training levels and job requirements. The forms of direct intervention proposed by Tsang and Levin (1985, p.101), such as tax breaks for employers of appropriately qualified workers, hardly seem to be practicable. A cautionary example of this type of hapless external intervention in the labour market is the levy imposed on German companies which do not employ their statutory quota of disabled workers. This measure has failed to achieve its intended aim of encouraging the recruitment of disabled persons. It seems likely that the introduction of a similar levy on training places, which was under serious discussion in Germany until very recently, would have posed similar problems.

Measures designed to broaden the skills and qualifications of overqualified workers are

[80] For a summary of the official system in Germany as it now stands, see Dostal et al., 1999, pp.57 ff.

likely to prove more effective.[81] These measures are generally targeted at unemployed jobseekers at the present time. As part of the process of reducing the specialised component of curricula in the field of non-academic vocational training, consideration should be given to the possibility of extending such measures to overqualified workers and to devising some means of dividing the cost between employers and the government. Emphasis should be placed on training in a marketable job, in other words within the framework of a proper employment contract. While the current widespread implementation of job-creation schemes in Germany fulfils an important social function at the present time, when there is no suitable alternative, it does distort the market and means, for example, that the findings of conventional market studies, which are based on employees' qualification levels and do not differentiate between workers on job-creation schemes and those in regular employment, send erroneous signals to the education system about the utility of the certificates it awards.

Limited regional mobility has proved to be an obstacle, at least in Germany, to people's prospects of obtaining a job commensurate with their qualifications (Büchel, 1998b, pp.143 ff.). The relevant findings show that greater efficiency could be achieved not only if individuals were willing to move house but even if they were prepared to commute. All measures designed to overcome this reluctance to move to places where work is available, a reluctance that has traditionally been far greater in Europe than in the United States, for example, will help to ensure a better return on investments in skills and qualifications and to enhance the efficiency of the labour market. There are many conceivable strategies that transcend the conventional mechanisms of employment policy, from structural measures such as improvement of the roads and transport infrastructure, including the development of local public transport services, to fiscal measures such as tax concessions to offset work-related removal costs.

Here too, however, within the narrower confines of employment policy, an information deficit has to be highlighted. A long-distance move in search of work presupposes knowledge of the employment opportunities at the new location. Adequate information has hitherto been reserved for the more highly qualified. The jobs that might interest them are normally advertised nationally. By contrast, there is a severe shortage of information on a national, let alone European, scale for jobseekers with no managerial qualifications. Employers traditionally recruit these employees locally. Given the identified benefits of regional mobility, the establishment of a European recruitment service on the Internet would certainly be a huge step forward.

The employment strategies described above are primarily designed to adjust the ratio of matches to mismatches. It is evident that employment policies also exert a strong influence on the ratio of overqualified workers to jobseekers. An employment policy can be used to motivate skilled jobseekers to accept jobs for which they are overqualified by cutting their unemployment benefit or by tightening the rules governing the definition of a reasonable job offer and by ensuring that the rules are enforced.

There are several grounds for suggesting that this sort of induced increase in overqualification at the expense of the unemployment rate would be economically sound. In some European countries, the percentage of low-paid jobs is judged by the OECD to be disproportionately small when compared with countries such as the United States. This is probably due to the fact that, depending on the type and composition of the household, state benefit from the European welfare systems, which are often corporatist in nature, may sometimes offer a higher income than an unskilled or semi-skilled job.

On the other hand, trade unions are gradually coming to realise that there is too much standardisation of wage rates at the lower end of the scale, which results in excessively high

[81] The role of further education as a means of reducing the risk inherent in underemployment is discussed in Büchel, 1998b.

pay for unskilled and semi-skilled work. While greater differentiation of wage rates at the lower end of the pay scale, accompanied by a reduction in transfer payments, would certainly increase the number of jobs – especially in the service sector, with its high job-creation potential – we could also expect an increase in the numbers of the 'working poor', as has happened in the United States.

This strategy, however, can only operate within certain limits, which are set by social policy or by society itself. For example, most of the European population would surely feel rather uncomfortable with the idea that, as often happens in the United States, every store checkout would have an auxiliary – who might be overqualified for the job – standing by to pack customers' shopping into bags and carry it to their cars, even though there might be a market for this service at a suitably low rate of pay. The introduction of a combined wage, made up of income from employment and transfer payments, which is currently under discussion, could be an effective means of creating more jobs.

The present study has shown that significant links exist between overqualification and unemployment. So the question whether the percentage of overqualification in a national economy is 'too high' or 'too low' must always be answered by reference to the unemployment rate. The ideal ratio between the overqualified and unemployed percentages of the labour force cannot be determined by a scientific study but needs to be established normatively in the light of society's collective values. The same applies to the percentage of overqualified workers when considered in isolation. Overqualification must not be seen as an entirely bad thing; it also has positive effects, for example in the form of spillover effects in connection with the skill upgrading of certain occupations.[82] It is conceivable that, like the rate of 'natural' unemployment, an optimum level of overqualification could be identified on the basis of structural models, although this too would surely spark off a discussion on the considerations that should determine whether the labour market is functioning at maximum efficiency.

Summary

Section 1 begins by setting out the purpose of the study, which is to investigate the reasons for the occurrence of overqualification and to address the problem of finding a valid means of identifying cases of overqualification. At the same time, the author takes the innovative step of trying to establish a typological affinity between overqualification and unemployment (including the hidden labour reserve). This affinity derives on the one hand from the fact that both situations involve a mismatch between qualifications and job requirements. It may be assumed that both phenomena impose a heavy financial burden on national economies, since economies do not operate at full capacity when part of their stock of human capital lies dormant. This implies that overqualification is a problem that needs to be addressed in the same way as unemployment, although there can be no disputing that unemployment is the more serious problem. In terms of the human capital theory, the analogy may be seen as follows: in the case of unemployment, 100% of a person's acquired formal vocational qualifications remain unused; in the case of overqualification, x% of those qualifications are unused, x being a significant quantity which can certainly be measured empirically, for instance by means of income analyses.

Another common feature of the two situations is that they are potentially temporary in nature and that the vast majority of people in them are not there out of choice. It may also be assumed that people in either situation will tend to aspire to a move into employment commensurate with their level of qualification. This means that it is possible in principle to analyse the phenomenon of overqualification with the same dynamic research strategy that was developed in the seventies to study un-

[82] On this point, see the study by Planas et al. in the present volume. However, the question whether the skill upgrading referred to here or a competitive 'bumping down' is the dominant process is essentially determined by the elasticity of market demand for higher qualifications (for more details, see Borghans and de Grip, 1999).

employment. This standpoint, however, is still very rarely encountered in the field of employment research.

Section 2 deals with terminological matters. Even at this stage, overqualification research is complicated by an unwieldy mass of concepts.

Section 3 briefly presents the various theories with which researchers have tried to explain the persistence of overqualification in the labour market. Some unorthodox approaches are also outlined. Most of the theories can only claim to explain part of the phenomenon. This section also discusses sets of influential factors that have scarcely ever been treated in the existing body of literature: institutional conditions such as the rules governing the system of unemployment benefit, basic economic conditions such as the trade cycle or the situation in the regional labour market, the personal preferences of those who offer their labour, in terms of the utility they ascribe to career success, etc., and the productivity calculations of employers, who need to know whether overqualified workers are liable to outperform their less-qualified colleagues.

In section 4, the problem of identifying instances of overqualification is systematically discussed. The discussion starts with an explanation of the two main measurement strategies – the 'objective' and the 'subjective' approach – and their diverse variants; the presentation includes unorthodox measurement processes.

The so-called 'objective' approach identifies overqualification by comparing the employees' formal qualification levels with the reported information concerning their occupations. This approach depends on precise knowledge of the training that exists for particular occupations. Changes in the level of occupational requirements in the course of time, a high degree of variation between job requirements within the same occupational category and the typically high number of missing data on occupations that results from the conversion into ISCO codes of occupations that respondents are normally asked to report in words all pose considerable problems when this approach is adopted.

The so-called 'subjective' approach, on the other hand, compares the employees' formal qualification levels with their own subjective assessments of the qualifications required for their respective jobs. The disadvantage here is undoubtedly the greater element of uncertainty that always accompanies subjective assessments. A major advantage of this approach, however, lies in the assumption that the employees themselves are the best people to ask about the real requirements of their jobs. The methodological discussion that was largely conducted in U.S. research journals during the eighties essentially came to the conclusion that the subjective approach possessed greater validity than the objective approach. Accordingly, research designs based on the objective approach are hardly ever encountered in contemporary studies.

Once these strategies have been explained, the author's own refinement of the conventional subjective measurement strategy is described. This is principally based on the introduction of a third variable – occupational status – into the categorisation process. This variable serves to validate the standard comparison between the formal qualification and the employee's subjectively reported job-requirement level. The overqualification variable created by this measurement process, which still takes the dichotomous form 'overqualified? yes/no', turns out to be considerably more selective than the variable generated by the conventional two-variable process.

The validity of the construct was tested with the aid of job characteristics (about 50 items) of overqualified and adequately employed workers; differences – usually substantial – between these two categories were observed for almost every item. The only disadvantage is the emergence of two additional categories. The first of these covers cases that cannot be definitively assigned to either of the original categories, because the combination of the three input variables does not permit a clear classification as overqualification or adequate employment, while the second category cov-

ers cases where the combination of the three variable characteristics is implausible. These two categories are generally excluded from the empirical evaluation. The reduction in the total number of cases, however, is fairly small.

Section 5 provides a comprehensive review of the literature that deals with the subject of overqualification. Special emphasis is placed on the origins of this discussion in the wake of the expansion of education systems in the seventies and eighties. The beginnings of the academic investigation of the problem of overqualification are retraced for the United States first of all. This is the country from which the main contributions to this field of research have come, contributions which, above all else, set the methodological standard.

The early development of overqualification research outside the United States is described, the German situation being used as an example. Thereafter, more recent works from the United States and Europe – including international comparative studies – are presented. It emerges that European overqualification researchers have only begun in recent times to draw upon the methodological groundwork that was produced in the United States. It is also noticeable that, apart from the Dutch, British and German research, the work that has been done on overqualification in Europe is still at a very rudimentary stage.

In section 6, on the basis of German longitudinal data, some selected examples of issues in the field of overqualification research are examined empirically in the light of the postulated affinity between unemployment and overqualification.

It emerges first of all from cross-section analyses that, once the data have been controlled for the main social characteristics, overqualified workers do not differ significantly from jobseekers in their problem-solving capacity and level of political involvement but that both lag far behind workers whose jobs match their qualifications. In terms of morale and concerns about the future, the overqualified group is positioned halfway between the unemployed and adequately employed groups.

The second stage of the examination involves the use of the instruments of dynamic unemployment research to analyse overqualification. Firstly, transitions into overqualification from various other types of employment status are examined. The multivariate analyses show that, when the data are controlled for the respondents' socioeconomic background, unemployment is the status from which individuals most frequently move into overqualification. This is evidence of important exchange processes between these two types of employment status. Transitions from overqualification to unemployment (downward mobility) and to educationally adequate employment (upward mobility) are then analysed.

These analyses demonstrate that transitions into unemployment occur more frequently than transitions to adequate employment. This finding, which is consistent with the postulates of the segmentation approach, can be seen as further proof of exchange process between overqualification and unemployment. In an additional analysis, the study examines whether a phase of overqualification following a period of adequate employment is likely to afford protection against unemployment or whether it tends to be one step in a downward process. The former is the case, which indicates that employees with a strong desire to work who see their educationally adequate job at risk or who have already been made redundant will protect themselves against unemployment if they take a flexible approach and accept a second-best option in the form of overqualification.

A transition into adequate employment, however, is a more frequently observable occurrence among unemployed than overqualified individuals. An additional analysis also demonstrates that acceptance of an underskilled job does not bring jobseekers any closer to adequate employment. On the one hand, this may mean that many underskilled jobs can be regarded as dead-end jobs. On the other hand, this finding could indicate that a significant number of unemployed people are pursuing an inflexible job-search strategy and will only accept jobs commensurate with their qualifications. This possibility touches on the

question of the institutional rules governing unemployment benefit.

Lastly, longer-term income effects of overqualification are examined. It emerges that the incomes of overqualified workers grow more slowly than those of their adequately employed counterparts. This remains the case even after the basic income level has been controlled for numerous socioeconomic characteristics. A final additional analysis is then conducted to establish whether – as would be expected – a period spent in overqualification creates income effects that lie somewhere between those of adequate employment and those of unemployment. The expectations of the human capital theory are indeed fulfilled: if periods of overqualification or unemployment intervene in the course of a career spent mainly in adequate employment, while the phases of overqualification generate significant income losses by comparison with unbroken adequate employment, these losses are lower than those that result from a period of unemployment.

The study is rounded off in section 7 with methodological conclusions addressed to employment researchers and substantive implications for education and employment policies. The first postulate addressed to employment researchers is that the typological affinity between overqualification and unemployment should be recognised; this would result in far greater diversity of research strategies for the analysis of overqualification, particularly longitudinal analysis, than has hitherto been observable in the relevant literature. The second postulate is that predictions of future demand for labour should no longer be based, as has hitherto been customary, on a prolongation of the development of an employee's level of qualification but rather on the development of the skill level required for his or her job. Neglecting the aspect of mismatch by disregarding the problem of overqualification could lead to glaring errors in the assessment of future labour requirements. The likelihood of such miscalculation will be greater if overqualification rates rise over a period of time.

A host of suggestions are made to policymakers in the fields of education and employment as to how the percentage of overqualified workers in the labour force can be reduced. These are largely extracted by means of partial analysis from the empirical findings set out in the available literature. For details of these suggestions, the reader is referred to the short subsection 7.2 of the study. Here too, the crux of the matter is that the problem of overqualification should be considered relevant in macroeconomic terms and that political pressure should be applied with a view to solving it; such pressure should be structured in the same way as the mechanisms used to combat unemployment, although lower priority will naturally be given to overqualification. Both overqualification and unemployment are signs of inadequate coordination within the labour market, in which the inefficiencies of the education system play a significant role. Accordingly, both problems lend themselves to treatment with similar sets of mechanisms.

Bibliography

Adamy W., Bosch G., 1990. Arbeitsmarktprojektion – Wegweiser für Beschäftigungspolitik? *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **23**(1), pp.111-121.

Alba-Ramirez A., 1993. Mismatch in the Spanish labor market: Overeducation? *The Journal of Human Resources*, **28**(2), 1993, pp. 259-278.

Alpin C., Shackleton JR., Walsh S., 1998. Over- and Under-Education in the UK Graduate Labour Market. *Studies in Higher Education*, **23**(1), pp. 17-34.

Amick B.C., Lavis J.N., 1998. *Labor Markets and Health: A Framework and Set of Applications*. Paper submitted to the Kansas Conference on Health and Its Determinants, Wichita, Kansas, April 20-21.

Amirault T.A., 1992. Job Market Profile of College Graduates in 1992: A Focus on Earnings and Jobs. *Occupational Outlook Quarterly*, **20** (Summer), pp.20-28.

Arrow K.J., 1973. Higher Education as a Filter. *Journal of Public Economics*, **2**, pp.193-216.

Batenburg R., Witte M. de, 1998. *Underemployment in the Netherlands. How the Dutch 'poldermodel' failed to close the education-job gap* (submitted manuscript).

Battu H., Belfield C. R., Sloane P.J., 1999. Over-education among Graduates: a Cohort View. *Educational Economics*, **17**(1), pp.1-18.

Battu H., Seaman P., Sloane P., 1998a. *Are Married Women Spatially Constrained? A Test of Gender Differentials in Labour Market Outcomes*. Discussion Paper 98-07, Department of Economics, University of Aberdeen, UK.

Battu H., Seaman P., Sloane P., 1998b. *The Impact of Regional Migration on the Earnings, Employment and Overeducation of Married Women* (submitted manuscript).

Battu H., Sloane P., forthcoming. Overeducation and Crowding out in Britain. *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization*. Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Becker G.S., 1964. *Human Capital*. Columbia University Press, New York.

Beneito P., Ferri J., Molto M.L., Uriel E., forthcoming. Over/Undereducation and Specific Training in Spain: Complementary or Substitute Components of Human Capital? *In:* H. Heijke, J. Muysken, eds. *Education and Training in a Knowledge-based Economy*. AEA-Macmillan Series, Macmillan Press, Basingstoke, UK.

Berg I., 1970. *Education and Jobs: The Great Training Robbery*. Praeger, New York.

Berg I., 1989. Rich Man's Qualification for Poor Man's Jobs. *Trans-Action*, **6**(5), pp.45-50.

Bielenski H., Brinkmann C., Kohler B., 1994. *Erwerbsverläufe und arbeitsmarktpolitische Maßnahmen in Ostdeutschland. Ergebnisse des Arbeitsmarkt-Monitors über berufliche Veränderungen 1989 bis 1993*. IAB workshop report No 12.

Bielenski H., Brinkmann C., Kohler B., 1995. *Erwerbsverläufe seit der Wende in Ostdeutschland. Ergebnisse des Arbeitsmarkt-Monitors über berufliche Veränderungen 1989 bis 1994*. IAB workshop report No 6.

Bishop J., 1995. Overeducation. *In:* M. Carnoy, ed. *International Encyclopedia of Economics of Education. 2nd Edition*. Pergamon Press, Oxford, UK, pp. 375-381.

Blaschke B., 1987. *Soziale Qualifikationen im Erwerbsleben – Theoretisches Konzept und empirische Ergebnisse*. Beiträge zur Arbeitsmarkt- und Berufsforschung 116, Nuremberg.

Blechinger D., Pfeiffer F., 1999. Qualifikation, Beschäftigung und technischer Fortschritt. Empirische Evidenz mit den Daten des Mannheimer Innovationspanels. *Jahrbücher für Nationalökonomie und Statistik*, **218**(1/2), pp.129-145.

Blien U., 1986. *Unternehmensverhalten und Arbeitsmarktstruktur. Eine Systematik und Kritik wichtiger Beiträge zur Arbeitsmarkttheorie*. Beiträge zur Arbeitsmarkt- und Berufsforschung, Vol. 103. Institut für Arbeitsmarkt- und Berufsforschung (IAB), Nuremberg.

Bodenhöfer H.-J., 1984. Unternehmenswachstum, Qualifikationsstruktur und Absorption eines höheren Qualifikationsangebots. *In:* H.P. Widmaier, ed. *Das Arbeitskräfteangebot zwischen Markt und Plan*. Duncker & Humblot, Berlin, 1984, pp.11-60.

Borghans L., Bruinshoofd A., Grip A. d., (forthcoming). Low Wages, Skills and the Utilization of Skills. *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization*. Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Borghans L., Grip A. d., 1999. *Skills and low pay: upgrading or overeducation?* (submitted manuscript). ROA, Maastricht University.

Borghans L., Grip A. d., forthcoming(a). The Debate in Economics about Skill Utilization. *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization*. Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Borghans L., Grip A. d., ed., forthcoming(b). *The Overeducated Worker? The Economics of Skill Utilization*. Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Borghans L., Grip A. d., Sloane P., 1998. *Underutilisation of skills, bumping down and low wages* (submitted manuscript).

Borghans L., Smits W., 1997. *Underutilisation and wages of HVE graduates*. Paper submitted to the AEA Conference, Maastricht, NL.

Bowles S., Gintis H., 1976. *Schooling in Capitalist America*. Basic Books, New York.

Bowlus A. J., 1995. Matching Workers and Jobs: Cyclical Fluctuations in Match Quality. *Journal of Labor Economics*, **13**(2), pp. 335-350.

Brinkmann C., Wiedemann E., 1995. Arbeitsmarktrisiken im ostdeutschen Transformationsprozeß: Ergebnisse des Arbeitsmarkt-Monitors 1989 bis 1994. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **28**(3), pp.323-338.

Brinkmann C., Wiedemann E., 1997. Unterwertige Beschäftigung. *In:* H. Bielenski, ed. *Der Arbeitsmarkt Ostdeutschlands im Umbruch: Datensätze, Methoden und ausgewählte Ergebnisse des Arbeitmarkt-Monitors 1989 – 1994*. Beiträge zur Arbeitsmarkt- und Berufsforschung 210, IAB, Nuremberg, pp.56-60.

Brinkmann G., 1978. Die Absorption der Hochschulabsolventen durch das Beschäftigungssystem der Vereinigten Staaten von Amerika. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **11**(4), pp. 425-434.

Büchel F., 1992. *Die Qualität der Wiederbeschäftigung nach ununterbrochener und nach «perforierter» Langzeitarbeitslosigkeit*. Beiträge zur Arbeitsmarkt- und Berufsforschung 162, IAB, Nuremberg.

Büchel F., 1994a. Die Stabilisierung extrem instabiler Beschäftigungsverläufe. Eine segmentations-theoretische Betrachtung. *Jahrbücher für Nationalökonomie und Statistik*, **213** (4), pp. 456-470.

Büchel F., 1994b. Overqualification at the Beginning of a Non Academic Working Career. The Efficiency of the German Dual System under Test. *In:* G.-A. Horn, H. Trabold, eds. *Globalisation and Structural Unemployment*. Special Issue of *Konjunkturpolitik* 40(3-4). Duncker & Humblot, Berlin, pp.342-368.

Büchel F., 1995. Unterwertige Beschäftigung in Ostdeutschland. Erste Informationen zu Größenordnungen und Entwicklungstendenzen. Empirische Arbeitsmarktforschung zur Transformation in Ostdeutschland. *In:* D. Beer, C. Brinkmann, A. Deeke, S. Schenk, eds. *Reihe «SAMF-Arbeitspapiere», Band 1995-4*. SAMF, Gelsenkirchen, pp.187-195.

Büchel F., 1996a. Der hohe Anteil an unterwertig Beschäftigten bei jüngeren Akademikern: Karrierezeitpunkt- oder Strukturwandel-Effekt? *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **29**(2), pp.279-294.

Büchel F., 1996b. *Wenn sich der Sozialpädagoge als Kellner durchschlägt*. Guest article for the education page of the *Frankfurter Rundschau* of 19 September 1996, p.6.

Büchel F., 1997. Berufseinmündung und erste Karrierephase von Akademikern mit einer beruflichen Zusatzqualifikation. Ein Beitrag zur Kontroverse 'HIS versus Büchel/Helberger'. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **30**(3), pp.620-634.

Büchel F., 1998a. Unterwertig Erwerbstätige – Eine von der amtlichen Statistik übersehene Problemgruppe des Arbeitsmarktes', *In:* J. Schupp, F. Büchel, M. Diewald, R. Habich, eds. *Arbeitsmarktstatistik zwischen Realität und Fiktion*. 'Sozialstruktur und Sozialberichterstattung' series of the Berlin Social Science Research Centre (WZB). edition sigma, Berlin, pp.113-130.

Büchel F., 1998b, *Zuviel gelernt? Ausbildungsinadäquate Erwerbstätigkeit in Deutschland.* W.Bertelsmann Verlag, Bielefeld.

Büchel F., 1999a. *The Effects of Overeducation on Productivity in Germany – The Firms' Viewpoint.* Paper presented at the EALE 1999 Conference, Regensburg (Germany), 23-26 September 1999.

Büchel F., 1999b. Productivity Effects of Overeducation in Germany – First Results. *In:* T.A. Dunn, J.R. Frick, J.C. Witte, eds. *Proceedings of the 1998 Third International Conference of the German Socio-Economic Panels Study Users.* Special issue of the *Vierteljahrshefte zur Wirtschaftsforschung*, 68(2). Duncker & Humblot, Berlin, pp.199-203.

Büchel F., 1999c. Produktivitätseffekte durch Überqualifikation. *In:* R.K. von Weizsäcker, ed. *Bildung und Beschäftigung.* Documents of the Verein für Socialpolitik. Duncker & Humblot, Berlin.

Büchel F., 1999d. *The Theory of 'Differential Overqualification' – Does it Work?*

Büchel F., forthcoming. Tied Movers, Tied Stayers – The Higher Risk of Overeducation Among Married Women in West Germany. *In:* S. Gustafsson, D. Meulders, eds. *Gender and the Labour Market. Econometric Evidence on Obstacles in Achieving Gender Equality.* AEA-Macmillan Series, Macmillan Press, Basingstoke, UK.

Büchel F., Falter J. W., 1994. Der Einfluß von Langzeitarbeitslosigkeit auf die Parteibindung in der Bundesrepublik Deutschland. *Zeitschrift für Parlamentsfragen*, **25**(2), pp.186-202.

Büchel F., Helberger C., 1995. Bildungsnachfrage als Versicherungsstrategie. Der Effekt eines zusätzlich erworbenen Lehrabschlusses auf die beruflichen Startchancen von Hochschulabsolventen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **28**(1), pp.32-42.

Büchel F., Matiaske W., 1996. Die Ausbildungsadäquanz der Beschäftigung bei Berufsanfängern mit Fachhoch- und Hochschulabschluß. *Konjunkturpolitik*, **42**(1), pp.53-83.

Büchel F., Mertens A., 2000. *Overeducation, Undereducation, and the Theory of Career Mobility* Paper presented at the EALE/SOLE 2000 Conference, Milan (Italy), 22-25 June 2000.

Büchel F., Mertens A., forthcoming. Berufliche Aufstiegschancen von Über- und Unterqualifizierten – Ein Test der Karrieremobilitäts-Theorie. *In:* U. Backes-Gellner, P. Moog, eds. *Bildungssystem und betriebliche Beschäftigungsstrategien*. Documents of the Verein für Socialpolitik. Duncker & Humblot, Berlin.

Büchel F., Pannenberg M., 1997. Bildung. *In*: Statistisches Bundesamt, ed. *Datenreport 1997 – Zahlen und Fakten über die Bundesrepublik Deutschland.* Documents of the Federal Centre for Political Education (BpB), Vol.340. BpB, Bonn, pp.481-488.

Büchel F., Weißhuhn G., *Bildungswege und Berufseintritt im Wandel. Mittelfristige Entwicklung und sozio-ökonomische Bestimmungsfaktoren der Bildungsnachfrage und der Übergangsmuster zwischen beruflichen Ausbildungsformen in Deutschland.* W. Bertelsmann Verlag, Bielefeld, 1995.

Büchel F., Weißhuhn G., 1997a. *Ausbildungsinadäquate Beschäftigung der Absolventen des Bildungssystems. Berichterstattung zu Struktur und Entwicklung unterwertiger Beschäftigung in West- und Ostdeutschland.* Report commissioned by the Federal Ministry of Education, Science, Research and Technology, Bonn. Volume 471 of the *Volkswirtschaftliche Schriften* series. Duncker & Humblot, Berlin.

Büchel F., Weißhuhn G., 1997b. *Ausbildungsinadäquate Beschäftigung in Deutschland und den USA. Ein Vergleich von Struktur und Einkommenseffekten auf der Basis von Paneldaten.* Report commissioned by the Federal Ministry of Education, Science, Research and Technology (BMBF), Bonn. BMBF, Bonn.

Büchel F., Weißhuhn G., 1997c. *Unter Wert verkauft – Ausbildungsinadäquate Beschäftigung von Frauen in West- und Ostdeutschland. Arbeitsbedingungen und sozioökonomische Bestimmungsgründe.* Report commissioned by the Federal Ministry of Education, Science, Research and Technology, Bonn. W. Bertelsmann Verlag, Bielefeld.

Büchel F., Weißhuhn G., 1998. *Ausbildungsinadäquate Beschäftigung der Absolventen des Bildungssystems II. Fortsetzung der Berichterstattung zu Struktur und Entwicklung unterwertiger Beschäftigung in West- und Ostdeutschland (1993 – 1995).* Report commissioned by the Federal Ministry of Education, Science, Research and Technology, Bonn. Volume 471/II of the *Volkswirtschaftliche Schriften* series. Duncker & Humblot, Berlin.

Büchel F., Witte J.C., 1997. The Incidence and Consequences of Overeducation Among Young Workers in the United States and Germany: A Comparative Panel Analysis. *In:* T. A. Dunn, J. Schwarze, eds. *Proceedings of the 1996 Second International Conference of the German Socio-Economic Panels Study Users.* Special issue of *Vierteljahrshefte zur Wirtschaftsforschung*, **66**(1), pp. 32-40.

Büchtemann C. F., Schupp J., Soloff D.J., 1993. Übergänge von der Schule in den Beruf – Deutschland und USA im Vergleich. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **26**(4), pp.507-520.

Burdett K., 1978. A Theory of Employee Search and Quits. *American Economic Review*, **68**, pp.212-220.

Burris B.H., 1983a. The Human Effects of Underemployment. *Social Problems*, **31**, pp. 96-110.

Burris B.H., 1983b. *No Room at the Top*, Praeger, New York.

Burris V., 1983c. The Social and Political Consequences of Overeducation. *American Sociological Review*, **48**(4), pp.454-467.

Busch D.W., Hommerich C., 1983. Der akademische 'Modellathlet': Tendenzen, Erwartungen, Widersprüche, Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven. *In*: Arbeitskreis Berufsforschung, Bremen and Bergisch-Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven.* Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp. 60-87.

Buttler F., Tessaring M., 1993. Humankapital als Standortfaktor. Argumente zur Bildungsdiskussion aus arbeitsmarktpolitischer Sicht. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **26**(4), pp. 467-476.

Cain G., 1976. The challenge of segmented labor market theories to orthodox theory: a survey. *Journal of Economic Literature*, **14**(3), pp.827-855.

Caplan R., Cobb S., French J., Harrison R., Pinneau S., 1980. *Job Demands and Worker Health.* Institute for Social Research, Ann Arbor, Mich., USA.

Cappelli P., 1993. Are Skill Requirements Rising? Evidence From Production and Clerical Jobs. *Industrial and Labor Relations Review*, **46**(3), pp.515-530.

Carnegie Commission on Higher Education, 1973. *College Graduates and Jobs: Adjusting to a New Labor Market Situation.* McGraw-Hill, New York.

Cedefop, Tessaring M., 1998. *Training for a changing society: A report on current vocational education and training research in Europe.* Office for Official Publications of the European Communities, Luxembourg.

Chaberny A., Parmentier K., Schnur P., 1982. *Ausbildungsspezifische Strukturdaten. Teil 1: Betriebliche Ausbildung.* Beiträge zur Arbeitsmarkt und Berufsforschung 61.1. IAB, Nuremberg.

Chaberny A., Schober K., 1982. Risiko und Chance bei der Ausbildungs- und Berufswahl – Das Konzept der differenzierten Information über Beschäftigungsaussichten. *In:* D. Mertens, ed. *Konzepte der Arbeitsmarkt- und Berufsforschung. Eine Forschungsinventur des IAB.* Beiträge zur Arbeitsmarkt- und Berufsforschung 70. IAB, Nuremberg.

Clogg C.C., 1979. *Measuring Underemployment: Demographic Indicators for the United States.* Acadamic Press, New York.

Clogg C.C., Shockey J.W., 1984. Mismatch between Occupation and Schooling: A Prevalence Measure, Recent Trends and Demographic Analysis. *Demography*, **21**(2), pp.235-257.

Clogg C.C., Shockey J.W., 1985. The effect of changing demographic composition on recent trends in underemployment. *Demography*, **22**, pp.395-414.

Clogg C.C., Sullivan T.A., 1983. Labor Force Composition and Underemployment Trends, 1969-1980. *Social Indicators Research*, **12**, pp.117-152.

Clogg C.C., Sullivan T.A., Mutchler J.E., 1986. Measuring Underemployment and Inequality in the Work Force. *Social Indicators Research*, **18**, pp.375-393.

Coburn D., 1975. Job-worker incongruence: consequence for health. *Journal of Health and Social Behavior*, **16**, pp.198-212.

Cohen M.S., 1971. Sex Differences in Compensation. *The Journal of Human Resources*, **6**, pp.434-447.

Cohn E., 1992. The Impact of Surplus Schooling on Earnings: Comment. *The Journal of Human Resources*, **27**(4), pp.679-682.

Cohn E., Khan S., 1995. The wage effects of overschooling revisited. *Labour Economics*, **2**(1), pp.67-76.

Cohn E., Ng Y.C., 1999. *Incidence and Wage Effects of Overschooling and Underschooling in Hong Kong*. Economic Working Paper Series, No. B-99-1, College of Business Administration, University of South Carolina, USA.

Cohn E., Ng Y.C., Khan S., 1999. *The Incidence of Overschooling and Underschooling and its Effect on Earnings in the United States and Hong Kong* (submitted manuscript).

Cornwell C., Rupert P., 1997. Unobservable Individual Effects, Marriage and the Earnings of Young Men. *Economic Inquiry*, **35**, pp.285-294.

Daly M.C., Büchel F., Duncan G.J., 1997. Premiums and Penalties for Over- and Undereducation: Cross-time and Cross-national Comparisons in the United States and Germany. *In:* T.A. Dunn, J. Schwarze, eds. *Proceedings of the 1996 Second International Conference of the German Socio-Economic Panels Study Users*. Special issue of *Vierteljahrshefte zur Wirtschaftsforschung*, 66(1). Duncker & Humblot, Berlin, pp.25-31.

Daly M.C, Büchel F., Duncan G.J., forthcoming. Premiums and Penalties for Over- and Undereducation: Cross-time and Cross-national Comparisons in the United States and Germany. *In:* H. Oosterbeek, ed. *Economics of Education Review*, special issue on overeducation.

Denison E., 1979. *Accounting for Slower Economic Growth*. Brookings Institution Press, Wahington, D.C.

Der Spiegel, *Akademiker: «Schotten dicht»*. Article (no author, no issue number) in *Der Spiegel* magazine, 1985.

Doeringer P.B., Piore M.J., 1971. *Internal Labor Markets and Manpower Analysis*. Heath Lexington Books, Lexington, Mass., USA.

Dolton P., Vignoles A., forthcoming. The Incidence and Effect of Overeducation in the UK Graduate Labour Market. *In:* H. Oosterbeek, ed. *Economics of Education Review*, special issue on overeducation.

Dolton P.J., Vignoles A.F., 1997. *Overeducation Duration. How long did graduates in the 1980s take to get a graduate level job?* (submitted manuscript).

Dooley M.D., 1986. The overeducated Canadian? Changes in the relationship among earnings, education, and age for Canadian men: 1971-81. *Canadian Journal of Economics*, **19**(1), pp.142-159.

Dore R.P., 1976. *The Diploma Disease: Education, Qualification and Development*. Allen & Unwin, London.

Dostal W., Parmentier K., Schade H.-J., 1999. Möglichkeiten und Grenzen der quantitativen Berufsforschung im IAB – Eine Bestandsaufnahme. *Mitteilungen aus der Arbeits- und Berufsforschung*, **32**(1), pp.41-60.

Duncan G.J., Hoffmann S.D., 1978. The economic value of surplus education. *In:* G. and M. Duncan, N. James, eds., *Five Thousand American Families. Vol. VI*. Institute for Social Research, AnnArbor, Mich., USA, pp.233-246.

Duncan G.J., Hoffmann S.D., 1981. The Incidence and Wage Effects of Overeducation. *Economics of Education Review*, **1**(1), pp.75-86.

Eckaus R.S., 1964. Economic Criteria for Education and Training. *Review of Economics and Statistics*, **46**, pp.181-190.

Eijs P. van, Heijke H., forthcoming. Mismatch between Occupation and Education and the Costs and Benefits of Job-related Training. *In:* H. Heijke, J. Muysken, eds. *Education and Training in a Knowledge-based Economy*. AEA-Macmillan Series, Macmillan Press, Basingstoke, UK.

Fine S.A., 1968. The Use of the Dictionary of Occupational Titles as a Source of Estimates of Educational and Training Requirements. *Journal of Human Resources*, **3**, pp.363-375.

Forgeot G., Gautié J., 1997a. Insertion professionelle des jeunes et procéssus de déclassement. *Economie et statistique*, **4/5**(304/305), pp.53-74.

Forgeot G., Gautié J., 1997b. *Overeducation in the Youth Labour Market in France*. Paper submitted to the AEA Conference, Maastricht, NL.

Frank R.H., 1978a. Family Location Constraints and the Geographic Distribution of Female

Professionals. *Journal of Political Economy*, **86**(1), pp.117-130.

Frank R.H., 1978b. Why Women Earn Less: The Theory and Estimation of Differential Overqualification. *American Economic Review*, **68**(3), pp.360-373.

Franz W., 1991. *Arbeitsmarktökonomik*. Springer, Berlin, etc.

Freeman R.B., 1971. *The Market for College-Trained Manpower: A Study in the Economics of Career Choice*. Harvard University Press, Cambridge, Mass., USA.

Freeman R.B., 1975a. Legal 'cobwebs': A recursive model of the market for new lawyers. *Review of Economics and Statistics*, **57**, pp. 171-179.

Freeman R.B., 1975b. Overinvestment in College Training? *Journal of Human Resources*, **10**(3), pp.187-309.

Freeman R.B., 1975c. Supply and salary adjustments to the changing science manpower market: Physics. *American Economic Review*, **65**(1), pp.27-39.

Freeman R.B., 1976a. A cobweb model of the supply and starting salary of new engineers. *Industrial and Labor Relations Review*, **29**(2), pp.236-248.

Freeman R.B., 1976b. *The Overeducated American*. Academic Press, New York, etc.

Freeman R.B., 1977. The decline in the economic rewards to college education. *Review of Economics and Statistics*, **59**, pp.18-29.

Freeman R.B., 1980. The Facts About the Declining Economic Value of College. *The Journal of Human Resources*, **15**(1), pp.124-142.

Freeman R.B., 1981a. *Career patterns of college graduates in a declining job market*. NBER Working Papers No 697.

Freeman R.B., 1981b. *Implications of the changing U.S. labor market for higher education*. NBER Working Papers No 750.

Freeman R.B., Breneman D., 1974. *Forecasting the Ph.D. Labor Market*. Technical Report 2, National Board of Graduate Education, Washington, D.C.

Fuchs V.R., 1971. Differences in Hourly Earnings Between Men and Women. *Monthly Labor Review*, **94**, pp.9-15.

Gautier P., forthcoming. Do more High-skilled Workers occupy Simple Jobs during Bad Times? *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization*. Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Gill A.M., Solberg E.J., 1992. Surplus Schooling and Earnings: a Critique. *The Journal of Human Resources*, **27**(4), pp.683-689.

Gleiser S., 1996. Der Arbeitsmarkt für Akademiker. *In:* M. Tessaring, ed. *Die Zukunft der Akademikerbeschäftigung*. Documentation from a workshop held by the Federal Institute of Labour (*Bundesanstalt für Arbeit*) in Nuremberg on 26 and 27 March 1996. Beiträge zur Arbeitsmarkt- und Berufsforschung 201. IAB, Nuremberg, pp. 11-45.

Glytsos N. P., 1990. Anticipated Graduate Job Mismatch and Higher Education Capacity Inadequacies in Greece. *Higher Education*, **19**(4), pp.397-418.

Grip A. de, 1989. The Economics of Overeducation: a Comment. *Economics of Education Review*, **8**(2), pp.205-207.

Groeneveld S., 1997. Passend meten. Over definities en metingen vab overscholing. *Tijdschrift voor Arbeidsvraagstukken*, **13**(3), pp.273-282.

Groot W., 1993a. Overeducation and the Returns to Enterprise-related Schooling. *Economics of Education Review*, **12**(4), pp.299-309.

Groot W., 1993b. Overscholing, onderscholing en het rendement op bedrijfsopleiding. *mens en maatschappij*, **68**(4), pp.386-405.

Groot W., 1996. The incidence of, and returns to overeducation in the UK. *Applied Economics*, **28**, pp. 1345-1350.

Groot W., MaassenvandenBrink H., 1995. *Allocation and the Returns to Overeducation in the United Kingdom*. Discussion Paper No95/205, Tinbergen Institute of the University of Amsterdam.

Groot W., Maassen van den Brink H., 1996. Overscholing en verdringing op de arbeidsmarkt. *Economisch Statistische Berichte*, **81**, pp.74-77.

Groot W., Maassen van den Brink H., 1999. *Overeducation in the labor market: measurement issues and effects* (submitted manuscript).

Groot W., Maassen van den Brink H., forthcoming. Overeducation in the labor market: a meta-analysis. *In:* H. Oosterbeek, ed. *Economics of Education Review*, special issue on overeducation.

Gwartney J., 1970. Discrimination and Income Differentials. *American Economic Review*, **60**,pp.396-408.

Halaby C.N., 1994. Overeducation and Skill Mismatch. *Sociology of Education*, **67**(1), pp.47-59.

Handl J., 1996. Hat sich die berufliche Wertigkeit der Bildungsabschlüsse in den achtziger Jahren verringert? Eine Analyse der abhängig erwerbstätigen, deutschen Berufsanfänger auf der Basis von Mikrozensusergebnissen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **48**, pp.249-273.

Hartog J., 1980. Earnings and capability requirements. *Review of Economics and Statistics*, **62**(2), pp.230-240.

Hartog J., 1981a. *Personal Income Distribution. A Multicapability Theory.* Nijhoff, Leiden, NL, and Boston, Mass., USA.

Hartog J., 1981b. Wages and allocation under imperfect information. *De Economist*, **129**(3), pp.311-323.

Hartog J., 1985a. Earnings Functions: Testing for the Demand Side. *Economics Letters*, **19**, pp.281-285.

Hartog J., 1985b. Overscholing? *Economisch Statistische Berichten*, **70**, pp.152-156.

Hartog J., 1986. Allocation and the Earnings Function. *Empirical Economics*, **11**, pp.97-110.

Hartog J., 1997. *Over-Education and Earnings. Where are we, where should we go?* (submitted manuscript).

Hartog J., 1999a. Behind the veil of human capital. *OECD Observer*, **215.**

Hartog J., 1999b. On Returns to Education: Wandering Along the Hills of ORU Land. *In:* H. Heijke, J. Muysken, eds. *Education and Training in a Knowledge-based Economy.* AEA-Macmillan Series, Macmillan Press, Basingstoke, UK, pp.3-45.

Hartog J., 1999c. Over- and under-education and the relation to vocational training. *European Journal for Vocational Training*, **16**(1), pp.47-52.

Hartog J., 1999d. Über- und Unterqualifikation und ihre Beziehung zur beruflichen Weiterbildung. *Europäische Zeitschrift für Berufsbildung*, **16**(1), pp.52-58.

Hartog J., Jonker N., 1998. A Job to Match your Education: Does it Matter? *In:* H. Heijke, L. Borghans, eds. *Towards a Transparent Labour Market for Educational Decisions.* Ashgate, Aldershot, pp.99-118.

Hartog J., Oosterbeek H., 1988. Education, Allocation and Earnings in the Netherlands: Overschooling? *Economics of Education Review*, **7**(2), pp. 185-194.

Haugrund S., 1990. *Qualifikationsreserven in der industriellen Forschung und Entwicklung. Eine empirische Untersuchung zur Häufigkeit und zu ausgewählten Folgen einer arbeitsplatzbezogenen, individuellen Überqualifikation.* Poeschel, Stuttgart.

Hecker D.E., 1992. Reconciling conflicting data on jobs for college graduates. *Monthly Labor Review*, **115**(7), pp.3-12.

Hecker D.E., 1995a. College graduates in 'high school' jobs: a commentary. *Monthly Labor Review*, **115**(12), pp.28ff.

Hecker D.E., 1995b. Further analyses of the labor market for college graduates. *Monthly Labor Review*, **118**(2), pp.39-41.

Heinelt H., Lohmann A., 1992. *Immigranten im Wohlfahrtsstaat am Beispiel der Rechtspositionen und Lebensverhältnisse von Aussiedlern.* Leske + Budrich, Opladen.

Henninges H. von, 1991. Bildungsstruktur, Ausbildungsstruktur und ausbildungsadäquater Einsatz. *In:* G. Wagner, B. von Rosenbladt, D. Blaschke, eds. *An der Schwelle zur sozialen Marktwirtschaft. Ergebnisse aus der Basiserhebung des sozioökonomischen Panels in der DDR im Juni 1990.* Beiträge zur Arbeitsmarkt- und Berufsforschung 143. Institute for Employment Research (IAB), Nuremberg, pp.17-22.

Henninges H. von, 1996. Steigende Qualifikationsanforderungen im Arbeiterbereich? *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **29**(1), pp.73-82.

Hersch J., 1991. Education Match and Job Match. *Review of Economics and Statistics*, **79**, pp.140-144.

Hersch J., 1995. Optimal 'Mismatch' and Promotions. *Economic Inquiry*, **33**, pp.611-624.

Hofbauer H., Nagel E., 1987. Mobilität nach Abschluß der betrieblichen Berufsausbildung. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **20**(1), pp.45-73.

Hofmann C.F., 1995. *EU-Arbeitsmarktumfrage: Aspekte der Arbeitsmärkte in Europa und in Deutschland.* Federal Ministry of Labour and Social Affairs, Bonn.

Hofmann S., Vogeler G., 1995. *Geschichtsstudium und Beruf. Ergebnisse einer Befragung der Absolventen des Magisterstudienganges Geschichte in München 1987-1992.* Students' Organization of Ludwig-Maximilians-Universität, Dept. of History, Munich.

House J., 1974. The effects of occupational stress on physical health. *In:* J. O'Toole, ed. *Work and the Quality of Life.* M.I.T. Press, Cambridge, Mass., USA, pp.145-170.

ILO, 1998. *World Employment Report 1998-99: Employability in the global economy – how training matters.* International Labour Office, Geneva.

iwd, 1994a. Akademiker-Beschäftigung – Ein Fünftel unter Niveau. *Informationsdienst des Instituts der deutschen Wirtschaft (iwd)*, **20**(30), pp.4-5.

iwd, 1994b. Trainee-Programme: bei Akademikern begehrt. *Informationsdienst des Instituts der deutschen Wirtschaft (iwd)*, **20**(29), pp.4-5.

iwd, 1997. Einfach-Arbeitsplätze – Stiefkinder des Arbeitsmarktes. *Informationsdienst des Instituts der deutschen Wirtschaft (iwd)*, **25**(11), p. 6.

Jaffe A.J., Froomkin J., 1978. Occupational opportunities for college-educated workers, 1950-75. *Monthly Labor Review*, **101**, pp.15-21.

Jansen R., 1993. Ausbildung und Beschäftigung: Berufseinmündung und Wechselprozesse. *In:* R. Jansen, F. Stooss, eds. *Qualifikation und Erwerbssituation im geeinten Deutschland. Ein Überblick über die Ergebnisse der BIBB/IAB-Erhebung 1991/92.* Federal Institute for Vocational Training (BIBB), Berlin and Bonn, pp.24-43.

Jenkins D., 1974. *Job Power.* Heinemann, London.

Jensen U., 1999. *Measuring overeducation with robust stochastic earnings frontiers.* Paper presented at the EALE 1999 Conference, Regensburg, Germany, 23-26 September 1999.

Johnson G. and W.R., 1992. Subjective underemployment and psychosocial stress: the role of perceived social and supervisor support. *The Journal of Social Psychology*, **132**, pp.11-22.

Johnson G. and W.R., 1996. Perceived Overqualification and Psychological Well-Being. *The Journal of Social Psychology*, **136**, pp. 435-445.

Johnson G.J. and W.R., 1997. Perceived Overqualification, Sense of Control and Depression. *National Journal of Sociology*, **11**(1-2), pp.29-59.

Johnson G.J., Roy J.W., 1994. Perceived Skill Underutilization and Distributive Justice: The Role of Perceived Supervisor Support. *Sociological Spectrum*, **14**(2), pp.129-142.

Johnson G.J., Roy J.W., 1995. Subjective Underemployment and Job Satisfaction. *International Review of Modern Sociology*, **25**(1), pp.73-84.

Johnson W., 1978. A Theory of Job Shopping. *Quarterly Journal of Economics*, **92**, pp.261-277.

Jovanovic B., 1979a. Firm-specific Capital and Turnover. *Journal of Political Economy*, **87**(6), pp.1246-1260.

Jovanovic B., 1979b. Job Matching and the Theory of Turnover. *Journal of Political Economy*, **87**(5), pp.972-990.

Kaiser M., Jelitto R., Otto M., Schwarz U., 1980. Berufliche Integration von Fachhochschulabsolventen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **13**(1), pp.77-104.

Kalleberg A., Sørensen A.B., 1973. The Measurements of the Effects of Overtraining on Job Attitudes. *Sociological Methods and Research*, **2**(2), pp.215-238.

Kasl S., 1974. Work and mental health. *In:* J.O'Toole, ed. *Work and the Quality of Life.* M.I.T.Press, Cambridge, Mass., USA, pp.171-196.

Kaufman R.T., 1984. A note on Richard Freeman's 'Overinvestment in college training'. *Journal of Human Resources*, **19**(2), pp.278-279.

Keller B., 1997. Atypische Beschäftigungsverhältnisse: Beschäftigungswirkungen und Bedingungen der Regulierung. *In:* D. Sadowski, K. Pull, eds. *Vorschläge jenseits der Lohnpolitik. Optionen für mehr Beschäftigung II.* Campus, Frankfurt/Main and New York, pp.227-246.

Keller B., Klein T., 1994. Berufseinstieg und Mobilität von Akademikern zwischen Öffentlichem Dienst und Privatwirtschaft. Evidenz aus der Konstanzer Absolventenbefragung bei Diplom-Verwaltungswissenschaftlern. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung,* **27**(2), pp.152-160.

Khan L.J., Morrow P.C., 1991. Objective and Subjective Underemployment Relationships to Job Satisfaction. *Journal of Business Research,* **22**, pp.211-218.

Kiker B.F., Santos M.C., deOliveira M.M., 1997. Overeducation and undereducation: evidence for Portugal. *Economics of Education Review,* **16**(2), pp.111-125.

Kornhauser A., 1965. *Mental Health of the Industrial Worker.* Wiley, New York.

Krais B., 1983. Thesen zur Entwicklung der Arbeitsbedingungen von Akademikern in der privaten Wirtschaft. *In:* Arbeitskreis Berufsforschung, Bremen and Bergisch-Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven.* Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp. 34-47.

Krämer W., 1982. *Der Zusammenhang zwischen Berufsausbildung und Berufstätigkeit. Eine empirische Untersuchung von Ausmaß, Entstehung und Folgen beruflicher Flexibilität bei Führungskräften kleiner Unternehmen.* Schwartz, Göttingen.

Kühlewind G., Tessaring M., 1975. *Argumente für und gegen eine beschäftigungsorientierte Bildungspolitik.* Verlag Otto Schwartz & Co., Göttingen.

Lambropoulos H., Psacharopoulos G., 1992. Educational Expansion and Earnings Differentials in Greece. *Comparative Education Review,* **36**(1), pp.52-70.

Levin H.M., 1995. Work and Education. *In:* M. Carnoy, ed. *International Encyclopedia of Economics of Education. 2nd Edition.* Pergamon Press, Oxford, UK, pp. 10-19.

Levin H.M., 1977. Book Review: *The Overeducated American* by Richard B. Freeman. *Harvard Educational Review,* **47**, pp.226-231.

Lewin K., Cordier H., Heublein U., Dieter S., Andermann H., 1994a. *Studienabbruch, Hochschulwechsel und Examen im Wintersemester 1992/93 in Nordrhein-Westfalen: Hintergründe und Bewertung.* Report commissioned by the Ministry of Science and Research of the Federal State of North Rhine/Westphalia, Düsseldorf.

Lewin K., Cordier H., Heublein U., Sommer D., Andermann H., 1994b. *Befragung der Exmatrikulierten des Wintersemesters 1992/93 in Hessen.* Vol. 7 of the *Hochschulen* series, Ministry of Education and the Arts of the Federal State of Hesse, Wiesbaden.

Lichter D.T., 1988. Racial Differences in Underemployment in American Cities. *American Journal of Sociology,* **93**(4), pp.771-792.

Lippman S., McCall J., 1976a. The Economics of Job Search. Part I. Optimal Search Policies. *Economic Inquiry,* **14** (June), pp.155-189.

Lippman S., McCall J., 1976b. The Economics of Job Search. Part II. Empirical and Policy Implications of Job Search. *Economic Inquiry,* **14** (September), pp.347-368.

Lucas R.E.B., 1977. Hedonic Wage Equations and Psychic Wages in the Returns to Schooling. *American Economic Review,* **67**, pp.549-558.

Lutz B., Sengenberger W., 1974. *Arbeitsmarktstrukturen und öffentliche Arbeitsmarktpolitik. Eine kritische Analyse von Zielen und Instrumenten.* Schwartz, Göttingen.

MacDonald G.M., 1982. A market equilibrum theory of job assignment and sequential accumulation of information. *American Economic Review,* **72**(5), pp.1038-1055.

Madamba A.B., De Jong G.F., 1997. Job Mismatch among Asians in the United States: Ethnic Group Comparisons. *Social Science Quarterly,* **78**(2), pp.524-542.

Mangione T.W., Quinn R.P., 1975. Job Satisfaction, Counterproductive Behavior, and Drug Use at Work. *Journal of Applied Psychology,* **60**, pp.114-116.

Marsden D., 1997. Beschäftigungsförderung durch arbeitsrechtliche Deregulierung? *In:* D. Sadowski, K. Pull, eds. *Vorschläge jenseits der Lohnpolitik. Optionen für mehr Be-*

975

schäftigung II. Campus, Frankfurt/Main and New York, pp.247-266.

Mason G., 1996. Graduate Utilisation in British Industry: the Initial Impact of Mass Higher Education. *National Institute Economic Review,* (May), pp.93-103.

McGoldrick K., Robst J., 1996. Gender Differences in Overeducation. A Test of the Theory of Differential Overqualification. *American Economic Review,* **86**, pp. 280-284.

Mendes de Oliveira M., Santos M.C., Kiker B.F., (forthcoming). The role of human capital and technological change in overeducation. *In:* H.Oosterbeek, ed. *Economics of Education Review*, special issue on overeducation.

Mertens D., ed., 1982. *Konzepte der Arbeitsmarkt- und Berufsforschung. Eine Forschungsinventur des IAB.* Beiträge zur Arbeitsmarkt- und Berufsforschung 70. IAB, Nuremberg.

Mincer J., 1978. Family Migration Decisions. *Journal of Political Economy,* **86**(5), pp.749-773.

Mincer J., 1984. Overeducation or Undereducation? Comment. *In:* E. Dean, ed. *Education and Economic Productivity.* Ballinger, Cambridge, Mass., USA, pp.205-211.

Minks K.-H., 1992. *Absolventenreport Wirtschaftswissenschaften. Ergebnisse einer Untersuchung zum Berufsübergang von Absolventen wirtschaftswissenschaftlicher Studiengänge des Prüfungsjahres 1988/89.* Vol.6/92 in the *Bildung-Wissenschaft-Aktuell* series, Federal Ministry of Education and Science, Bonn.

Minks K.-H., 1996. *Frauen aus technischen und naturwissenschaftlichen Studiengängen. Ein Vergleich der Übergänge von Absolventinnen und Absolventen.* Vol.116 in the *Hochschulplanung* series, HIS, Hanover.

Minks K.-H., Filaretow B., 1993. *Absolventenreport Sozialwissenschaften. Ergebnisse einer Längsschnittuntersuchung zum Berufsübergang von Absolventen sozialwissenschaftlicher Diplom-Studiengänge.* Vol.18/93 in the *Bildung-Wissenschaft-Aktuell* series, Federal Ministry of Education and Science, Bonn.

Mortensen D.T., 1988. Wages, Separations, and Job Tenure. On-the-Job Specific Training or Matching? *Journal of Labor Economics,* **6**(4), pp.445-471.

Müller F., Beck M., 1993. Versteckte Arbeitslosigkeit als wirtschaftspolitisches Problem. Definition und Messung am Beispiel bundesdeutscher Wasserversorgungsunternehmen. *Jahrbuch für Sozialwissenschaft,* **44**(1), pp.53-77.

Muysken J., terWeel B., forthcoming. Overeducation and Crowding out of Low-skilled Workers. *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization.* Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Nelson P., 1970. Information and Consumer Behavior. *Journal of Political Economy,* **78**(2), pp.311-329.

Neubäumer R., 1993. Betriebliche Ausbildung 'über Bedarf' – empirische Ergebnisse und ein humankapitaltheoretischer Ansatz. *Jahrbuch für Sozialwissenschaft,* **44**, pp.104-131.

Neubäumer R., 1997. *»Ausbildung über oder unter Bedarf« und die Finanzierung der Dualen Ausbildung. Theoretische Erklärungen, empirische Ergebnisse und wirtschaftspolitische Schlußfolgerungen.* Paper presented on 6 February 1997 to the annual meeting of the Committee on Educational Economics (*Bildungsökonomischer Ausschuss*) of the Social Policy Association (Verein für Sozialpolitik). Submitted manuscript, Potsdam.

Neubäumer R., forthcoming. *Der Ausbildungsstellenmarkt der Bundesrepublik Deutschland: Eine theoretische und empirische Analyse.* Volkswirtschaftliche Schriften, Duncker & Humblot, Berlin.

Neusel A., 1983. Praxisbezug des Studiums als Arbeitsmarktstrategie für Hochschulabsolventen? *In:* Arbeitskreis Berufsforschung, Bremen and Bergisch-Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaft-liches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven.* Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp.235-258.

Nuthmann R., 1983. Verbleib von Hochschulabsolventen, Annahmen zur Entwicklung von Tätigkeiten und Arbeitsbedingungen und Arbeitsformen zwischen 'richtiger' Beschäftigung und Arbeitslosigkeit. *In:* Arbeitskreis Berufsforschung, Bremen and Bergisch-

Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven.* Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp.1-19.

Oaxaca R., 1973. Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review*, **14**, pp.693-709.

OECD, 1995a. *Employment Outlook, July 1995.* Organization for Economic Cooperation and Development, Paris.

OECD, 1995b. *Making Education Count. Developing and Using International Indicators.* Organization for Economic Cooperation and Development, Paris.

Ofek H., Merrill Y., 1997. Labor immobility and the formation of gender wage gaps in local markets. *Economic Inquiry*, **35**(1), pp.28-47.

Ofner F., 1994. Karriere durch Lehre? Zur Berufseinmündung von Absolventen der Lehrausbildung. *Wirtschaft und Gesellschaft*, **20**(3), pp.337-360.

Omori Y., 1997. Stigma Effects of Nonemployment. *Economic Inquiry*, **35**, pp.394-416.

Oosterbeek H., 1986. Overscholing en inkomen. *In:* J. Hartog, J. Ritsen, eds. *Economische aspecten van onderwijs.* Swets & Zeitlinger, Lisse, NL, pp.120-128.

Oosterbeek H., Webbink D., 1996. Over scholing, overscholing en inkomen. *Economisch Statistische Berichten*, **81**, pp.240-241.

Ours J.C. van, Ridder G., 1995. Job matching and job competition: are lower-educated workers at the back of job queues? *European Economic Review*, **39**, pp.1717-1731.

Patrinos H.A., 1995. Socioeconomic Background, Schooling, Experience, Ability and Monetary Rewards in Greece. *Economics of Education Review*, **14** (1), pp.85-91.

Patrinos, H.A., 1997. Overeducation in Greece. *International Review of Education*, **43**(2-3), 1997, pp.203-223.

Pfeiffer F., Blechinger D., 1995. Verwertbarkeit der Berufsausbildung im technischen Wandel. *In:* W. Franz, V. Steiner, eds. *Der westdeutsche Arbeitsmarkt im strukturellen Anpassungsprozeß.* Centre for European Economic Research (ZEW), Economic Analysis No 3, pp. 105-140.

Plicht H., Schober K., Schreyer F., 1994. Zur Ausbildungsadäquanz der Beschäftigung von Hochschulabsolventinnen (und -absolventen). Versuch einer Quantifizierung anhand der Mikrozensen 1985 bis 1991. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **27**(3), pp.177-204.

ProjektgruppePanel, Das Sozio-ökonomische Panel (SOEP) im Jahre 1994. *Vierteljahrshefte zur Wirtschaftsforschung*, **1**, 1995, pp.5-15.

Psacharopoulos G., 1988. Earnings and Education in Greece, 1960-1977. *European Economic Review*, **17**, pp.333-347.

Quinn R., Mandilovitch M., 1995. *Education and Job Satisfaction: a Questionable Payoff.* Survey Research Center, University of Michigan, AnnArbor, Mich., USA.

Rawlins V.L., Ulman L., 1974. The utilization of college-trained manpower in the United States. *In:* Gordon M. S., ed. *Higher Education and the Labor Market.* New York: MacGraw-Hill, pp. 195-235.

Rippe W., 1984. Die Analyse von betrieblichen Entscheidungsprozessen bei der Nachfrage von Hochschulabsolventen. Ein zu Recht vernachlässigter Ansatz bei der Erforschung von Absorptionsmechanismen des Arbeitsmarkts? *In:* H.P. Widmaier, ed. *Das Arbeitskräfteangebot zwischen Markt und Plan.* Duncker & Humblot, Berlin, pp.61-96.

Rippe W., 1988. Zur Ausbildungsadäquanz der Arbeitsplätze von Hochschulabsolventen. Konzeptionen und Indikatoren, Erfahrungen und Erwartungen', *In:* H.-J. Bodenhöfer, ed. *Bildung, Beruf, Arbeitsmarkt.* Documents of the Social Policy Association (*Verein für Socialpolitik*), N.F. 174. Duncker & Humblot, Berlin, pp.171-208.

Robst J., 1995a. Career mobility, job match, and overeducation. *Eastern Economic Journal*, **21**, pp.539-550.

Robst J., 1995b. College Quality and Overeducation. *Economics of Education Review*, **14**, pp.221-228.

Rosen S., 1972. Learning and Experience in the Labor Market. *Journal of Human Resources*, **7**(3), pp.326-342.

Rosen S., 1978. Substitution and Division of Labor. *Economica*, **45**, pp.235-250.

Rosenfeld R.A., 1992. Job mobility and career processes. *Annual Review of Sociology*, **18**, pp.39-61.

Roy A.D., 1951. Some Thoughts on the Distribution of Earnings. *Oxford Economic Papers*, **3**, pp.135-146.

Ruiz-Quintanilla S.A., Claes R., 1996. Determinants of underemployment of young adults: a multi-country study. *Industrial and labor relations review*, **49**(3), pp.424-438.

Rumberger R.W., 1980. The Economic Decline of College Graduates: Fact or Fallacy? *Journal of Human Resources*, **15**, pp.99-122.

Rumberger R.W., 1981a. The Changing Skill Requirements of Jobs in the U.S. Economy. *Industrial and Labor Relations Review*, **34**(4), pp.578-590.

Rumberger R.W., 1981a. *Overeducation in the U.S. Labor Market*. Praeger, New York.

Rumberger R.W., 1981c. The Rising Incidence of Overeducation in the U.S. Labor Market. *Economics of Education Review*, **1**(3), pp.293-314.

Rumberger R.W., 1984. The changing economic benefits of college graduates. *Economics of Education Review*, **3**, pp.3-11.

Rumberger R.W., 1987. The Impact of Surplus Schooling on Productivity and Earnings. *Journal of Human Resources*, **22**(1), pp. 24-50.

Rumberger R.W., 1994. Labour market outcomes as indicators of educational performance. *In*: OECD, Centre for Educational Research and Innovation, ed. *Making Education Count. Developing and Using International Indicators*. OECD, Paris, pp.265-286.

Sattinger M., 1975. Comparative advantage and the distribution of earnings and abilities. *Econometrica*, **43**(3), pp.455-468.

Sattinger M., 1977. Compensating Wage Differences. *Journal of Economic Theory*, **16**, pp.496-503.

Sattinger M., 1980. *Capital and the distribution of labor earnings*. North-Holland, Amsterdam.

Schasse U., 1991. *Betriebszugehörigkeitsdauer und Mobilität. Eine empirische Untersuchung zur Stabilität von Beschäftigungsverhältnissen*. Campus, Frankfurt/Main and New York.

Schlaffke W., 1972. *Akademisches Proletariat?* Fromm, Osnabrück, Germany.

Schlegelmilch C., 1982. Grauer Arbeitsmarkt für Hochschulabsolventen. Zur Typologie von Grauzonenbeschäftigungen und Problemen ihrer empirischen Erfassung. *Soziale Welt*, **33**(3/4), pp.400-430.

Schlegelmilch C., 1983a. Arbeitsorientierungen und Lebensperspektiven von Hochschulabsolventen in der Grauzone. *In*: J. Matthes, ed. *Krise der Arbeitsgesellschaft?* Campus, Frankfurt/Main and New York.

Schlegelmilch C., 1983b. 'Grauzonen' des sozialen Verbleibs von Hochschulabsolventen als Forschungsproblem. *In*: Arbeitskreis Berufsforschung, Bremen and Bergisch-Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven*. Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp. 48-59.

Schlegelmilch C., 1987. *Taxifahrer Dr. phil. Akademiker in der Grauzone des Arbeitsmarktes*. Leske + Budrich, Opladen, Germany.

Schreyer F., 1999. Der Akademikerarbeitsmarkt – ein Überblick. *Informationen für die Beratungs- und Vermittlungsdienste der Bundesanstalt für Arbeit*, **28/99**, pp.2275-2283.

Schwartz E., Thornton R., 1980. Overinvestment in College Training? *Journal of Human Resources*, **15**(1), pp.121-123.

Schwarze J., 1993. Qualifikation, Überqualifikation und Phasen des Transformationsprozesses. Die Entwicklung der Lohnstruktur in den neuen Bundesländern. *Jahrbücher für Nationalökonomie und Statistik*, **211**(1-2), pp.90-107.

Scoville J.G., 1966. Education and Training Requirements for Occupations. *Review of Economics and Statistics*, **48**, pp.387-394.

Shelley K.J., 1992. The future of jobs for college graduates. *Monthly Labor Review*, **115**(7), pp.13-21.

Shelley K.J., 1994. More Job Openings – Even More New Entrants: the Outlook for College Graduates, 1992 – 2005. *Occupational Outlook Quarterly*, **20** (summer), pp.4-9.

Sheppard H.L., Herrick N.Q., 1972. *Where Have All the Robots Gone: Worker Dissatisfaction in the 70s*. Free Press, New York.

Shockey J.W., 1989. Overeducation and Earnings: A Structural Approach to Differential Attainment in the U.S. Labor Force (1970-1982). *American Sociological Review*, **54**(5), pp.856-864.

Sicherman N., 1987. *Occupational Mobility and Human Capital Theory*. Ph.D. Dissertation, Dept. of Economics, Columbia University, New York.

Sicherman N., 1991. 'Overeducation' in the Labor Market. *Journal of Labor Economics*, **9**(2), pp.101-122.

Sicherman N., Galor O., 1990. A Theory of Career Mobility. *Journal of Political Economy*, **98**(1), pp.169-192.

Sloane P., Battu H., Seaman P.T., forthcoming. Over-education, Undereducation and the British Labour Market. *Applied Economics*.

Sloane P.J., Battu H., Seaman P.T., 1996. Overeducation and the Formal Education/Experience and Training Trade-Off. *Applied Economics Letters*, **3**(8), pp.511-515.

Smith H.L., 1986. Overeducation and Underemployment: An Agnostic Review. *Sociology of Education*, **59**, pp.85-99.

Smith J.P., Welch F., 1978. *The overeducated American? A review article*. RAND Discussion Paper No147.

Sørensen A.B., 1977. The Structure of Inequality and the Process of Attainment. *American Sociological Review*, **42** (December), pp.965-978.

Spence M., 1973. Job Market Signaling. *The Quarterly Journal of Economics*, **88**, pp.355-374.

Spence M., 1974. *Market Signalling: Information Transfer in Hiring and Related Screening Processes*. Harvard University Press, Cambridge, Mass., USA.

Spiegel: see *Der Spiegel*.

Spilerman S., Lunde T., 1991. Features of Educational Attainment and Job Promotion Prospects. *American Journal of Sociology*, **97**(3), pp.689-720.

Staines G.L., Quinn R.P., 1979. American workers evaluate the quality of their jobs. *Monthly Labor Review*, **102**(3-12).

Stifterverband für die Deutsche Wissenschaft, ed., 1993. *Qualifikationsanforderungen an Hochschulabsolventen – Empfehlungen aus Sicht der Wirtschaft*. Essen, (brochure).

Stigler G.J., 1961. The Economics of Information. *Journal of Political Economy*, **3**, pp.213-225.

Stiglitz J.E., 1975. The Theory of 'Screening', Education, and the Distribution of Income. *The American Economic Review*, **65**(3), pp.283-300.

Stooss F., 1979. Ausgewählte Befunde zur Situation der Hochschulabsolventen in der Bundesrepublik Deutschland im Jahre 1979. Zusammenfassung empirischer Ergebnisse aus einer Repräsentativ-Befragung der Infratest Wirtschaftsforschung GmbH, München. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **12**(4), pp.607-624.

Suda Z., 1979. Universal Growth of Educational Aspirations and the 'Overqualification' Problem. *European Journal of Education*, **14**(2), pp.113-164.

Sullivan T.A., 1978. *Marginal Workers, Marginal Jobs: The Underutilization of American Workers*. University of Texas Press, Austin, Texas, USA.

Sullivan T.A., 1981. Sociological Views of Labor Markets: Some Missed Opportunities and Neglected Directions. *In:* I. Berg, ed. *Sociological Perspectives on Labor Markets*. Academic Press, New York, etc., pp.329-346.

Szydlik M., 1996a. Ethnische Ungleichheit auf dem deutschen Arbeitsmarkt. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **48**(4), pp. 658-676.

Szydlik M., 1996b. Zur Übereinstimmung von Ausbildung und Arbeitsplatzanforderung in der Bundesrepublik Deutschland. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, **29**(2), pp.295-306.

Szydlik M., 1997a. Ausbildung und Beschäftigung von Ost- und Westdeutschen. *Aus Politik und Zeitgeschichte*, supplement to the 13 June 1997 edition of the weekly newspaper *Das Parlament*, pp.13-24.

Szydlik M., 1997b. Consequences of Allocation Processes in the Labor Market: a comparison of the United States and Germany. *In:* T.A. Dunn, J. Schwarze, eds. *Proceedings of the 1996 Second International Conference of the German Socio-Economic Panels Study Users*, special issue of the *Vierteljahrshefte zur Wirtschaftsforschung*, Vol.66, No 1, pp.41-46.

977

Szydlik M., 1997c. *Skill Mismatch in the United States of America, the former Federal Republic of Germany and the German Democratic Republic.* Research Report 59 of the Research Group on Aging and the Life Course (*Forschungsgruppe Altern und Lebenslauf (FALL)*), Free University of Berlin.

Szydlik M., 1998. Vocational Training and the Quality of Immigrant and Minority Jobs in Germany and the United States. *In:* H. Kurthen, J. Fijalkowski, G.G. Wagner, eds. *Immigration, Citizenship, and the Welfare State in Germany and the United States: Immigrant Incorporation.* PartA, Vol.14(A) of the Industrial Development and Social Fabric Series. JAI Press, Stanford, Conn., USA, pp.119-135.

Taubman P., Wales T., 1974. *Higher Education and Earnings: College as an investment and a screening device.* McGraw-Hill, New York.

Teichler U., 1988. Hochschule und Beruf in Europa. *In:* L. Reyher, J. Kühl, eds. *Resonanzen. Arbeitsmarkt und Beruf – Forschung und Politik.* Beiträge zur Arbeitsmarkt- und Berufsforschung 111. Institute for Employment Research (IAB), Nuremberg, pp.450-495.

Teichler U., 1994. Zur Akademikerbeschäftigung und zum Akademikerbedarf im internationalen Vergleich. *In:* C. Konegen-Grenier, W. Schlaffke, eds. *Akademikerbeschäftigung und Akademikerbedarf.* Deutscher Instituts-Verlag, Cologne, pp.21-37.

Teichler U., 1996. *Higher Education and Graduate Employment in Europe. Select Findings from Previous Decades.* Workshop Report No 52 of the Academic Centre for Occupational and Higher Education of Kassel University/ Polytechnic, Kassel, Germany.

Teichler U., 1998. Der Wandel der Beschäftigung und Berufstätigkeit von Hochschulabsolventen in Deutschland. *In:* A. Takanashi, U. Teichler, eds. *Berufliche Kompetenzentwicklung im Bildungs- und Beschäftigungssystem in Japan und Deutschland.* Frankfurter Studien zur Bildungsforschung, Nomos, Baden-Baden, pp.83-111.

Teichler U., Schomburg H., Winkler H., 1992. *Studium und Berufsweg von Hochschulabsolventen.* Vol.18/92 in the *Bildung – Wissenschaft – Aktuell* series, Federal Ministry of Education and Science, Bonn.

Terry S.L., 1981. Involuntary part-time work: new information from the CPS. *Monthly Labor Review,* **104**(2), pp.70-74.

Tessaring M., 1978. Zum Verbleib der Hochschulabsolventen seit 1971. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung,* **11**(2), pp.171-177.

Tessaring M., 1980. Evaluation von Bildungs- und Qualifikationsprognosen, insbesondere für hochqualifizierte Arbeitskräfte. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung,* **13**(3), pp.374-397.

Tessaring M., 1981. Arbeitslosigkeit, Verbleib und Beschäftigungsmöglichkeiten der Hochschulabsolventen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung,* **141**(4), pp.391-404.

Tessaring M., 1982. Die Bilanzierung von Angebot und Bedarf an hochqualifizierten Arbeitskräften. *In:* D. Mertens, ed. *Konzepte der Arbeitsmarkt- und Berufsforschung. Eine Forschungsinventur des IAB.* Beiträge zur Arbeitsmarkt- und Berufsforschung 70. IAB, Nuremberg.

Tessaring M., 1983. Verbleib und Beschäftigungspotentiale von Hochschulabsolventen – Thesen. *In:* Arbeitskreis Berufsforschung, Bremen and Bergisch-Gladbach, Institut für Arbeitsmarkt- und Berufsforschung, Nuremberg, Max-Planck-Institut für Bildungsforschung, Berlin, and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Kassel, eds. *Hochschulexpansion und Arbeitsmarkt. Problemstellungen und Forschungsperspektiven.* Beiträge zur Arbeitsmarkt- und Berufsforschung 77. IAB, Nuremberg, pp.20-33.

Tessaring M., 1984. Akademikerbeschäftigung im Wandel. *In:* H.P. Widmaier, ed. *Das Arbeitskräfteangebot zwischen Markt und Plan.* Duncker & Humblot, Berlin, pp.251-280.

Tessaring M., 1994a. Indikatoren der Akademikerbeschäftigung. *In:* C. Konegen-Grenier, W. Schlaffke, eds. *Akademikerbeschäftigung und Akademikerbedarf.* Deutscher Instituts-Verlag, Cologne, pp.38-54.

Tessaring M., 1994b. Langfristige Tendenzen des Arbeitskräftebedarfs nach Tätigkeiten und Qualifikationen in den alten Bundesländern bis zum Jahre 2010. Eine erste Aktualisierung der IAB/Prognos-Projektionen 1989/91. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung,* **27**(1), pp.5-19.

Tessaring M., 1998. The Future of Work and Skills – Visions, Trends and Forecasts. *In:* Cedefop, ed. *Vocational education and training – the European research field. Background report 1998.* Office for Official Publications of the European Communities, Luxembourg, pp.271-318.

Thurow L.C., 1975. *Generating Inequality. Mechanisms of Distribution in the U.S. Economy.* Basic Books, New York.

Tinbergen J., 1956. On the Theory of Income Distribution. *Weltwirtschaftliches Archiv,* **77**, pp.155-175.

Topel R.H., 1986. Local Labor Markets. *Journal of Political Economy,* **94**(3), pp.111-143.

Topel R.H., Ward M.P., 1992. Job mobility and the careers of young men. *The Quarterly Journal of Economics,* **107**(2), pp.439-479.

Tsang M.C., 1987. The Impact of Underutilization of Education on Productivity: A Case Study of the U.S. Bell Companies. *Economics of Education Review,* **6**(3), pp.239-254.

Tsang M.C., Levin H.M., 1985. The Economics of Overeducation. *Economics of Education Review,* **4**(2), pp.3-104.

Tsang M.C., Levin H.M., 1989. The Economics of Overeducation: Reply. *Economics of Education Review,* **8**(2), pp. 209 ff.

Tsang M.C., Rumberger W.R., Levin H.M., 1991. The Impact of Surplus Schooling on Worker Productivity. *Industrial Relations,* **30**(2), pp.209-228.

Tsoucalas C., 1981. Some Aspects of 'Overeducation' in Modern Greece. *Journal of the Hellenic Diaspora,* **8**(1-2), pp.109-122.

Tyler J., Murnane R.J., Levy F.S., 1995a. *Are lots of college graduates taking high school jobs? A reconsideration of the evidence.* NBER Working Papers No 5127.

Tyler J., Murnane R.J., Levy F.S., 1995b. Are more college graduates really taking high school jobs? *Monthly Labor Review,* **118**(12), pp.18-27.

Tyler J., Murnane R.J., Levy F.S., 1995c. Did the job market worsen for male college graduates over the 1980s? Different answers for different age groups. *Research in Labor Economics,* **14**, pp.69-89.

Vahey S.P., forthcoming. The Great Canadian Training Robbery: Evidence on the Returns to Educational Mismatch. *In:* H. Oosterbeek, ed. *Economics of Education Review*, special issue on overeducation.

Velden R.K.W van der, Smoorenburg M.S.M., 1999. *The Measurement of Overeducation and Under-education: Self-Report vs. Job-Analyst Method.* Paper submitted to the Lasmas Séminaire 'Catégarisations des statuts d´emploi ed d´activité. Paris, France. 15 November 1999.

Velling J., Pfeiffer F., 1997. *Arbeitslosigkeit, inadäquate Beschäftigung, Berufswechsel und Erwerbsbeteiligung.* Centre for European Economic Research (ZEW) Documentation No 97-02, Mannheim, Germany.

Verdugo R.R., Turner Verdugo N., 1988. Overeducation and the Earnings of Black, Hispanic, and White Male Workers. *Sociological Perspectives,* **3**(2), pp.190-212.

Verdugo R.R., Turner Verdugo N., 1989. The Impact of Surplus Schooling on Earnings: Some Additional Findings. *The Journal of Human Resources,* **24**(4), pp.629-643.

Verdugo R.R., Turner Verdugo N., 1992. Surplus Schooling and Earnings: Reply to Cohn and to Gill and Solberg. *The Journal of Human Resources,* **27**(4), pp.690-695.

Vincens J., 1995. Graduates and the Labour Market in France. *European Journal of Education,* **30**(2), pp.133-156.

Von Henninges: see Henninges.

Vroom V., 1964. *Work and Motivation.* Wiley, New York.

Weißhuhn G., 1978. *Beschäftigungschancen und Qualifikation. Zur Stabilität des Arbeitsmarktes bei Bildungsexpansion und Wandel der Arbeitsplatzanforderungen.* Campus, Frankfurt/Main.

Weißhuhn G., 1996. Szenarien der Akademikerbeschäftigung im Rahmen der IAB-Projektionen des Qualifikationsbedarfs. *In:* M. Tessaring, ed. *Die Zukunft der Akademikerbeschäftigung.* Documentation from a workshop held by the Federal Institute of Labour (*Bundesanstalt für Arbeit*) in Nuremberg on 26 and 27 March 1996. Bei-

träge zur Arbeitsmarkt- und Berufsforschung 201. IAB, Nuremberg, pp.69-103.

Weißhuhn G., Büchel F., 1998. Germany. *In*: OECD, ed. *Pathways and Participation in Vocational and Technical Education and Training*, commissioned by the Federal Ministry of Education and Science, Bonn. OECD, Paris, pp. 195-239.

Weißhuhn G., Wahse J., König A., 1994. *Arbeitskräftebedarf in Deutschland bis 2010. Arbeitskräfteeinsatz 1978 – 1990 und Szenarien bis 2010 für die alten und neuen Bundesländer.* Vol.116 in the *Studien zu Bildung und Wissenschaft* series. Bock, Bonn.

Wissenschaftsrat, 1999. *Stellungnahme zum Verhältnis von Hochschulausbildung und Beschäftigungssystem.* Opinion delivered on 9 July 1999. Public Relations Division, Scientific Council (*Wissenschaftsrat*), Würzburg, Germany.

Witmer D.R., 1980. Has the Golden Age of American Higher Education Come to an Abrupt End? *Journal of Human Resources*, 15(1), pp.113-120.

Witte J.C., 1999. Education and Training in a Changing Labor Market. Youth Employment in the United States and Germany: The Mechanics of Restructuring. *In:* T.A. Dunn, J.R. Frick, J.C. Witte, eds. *Proceedings of the 1998 Third International Conference of the German Socio-Economic Panels Study Users.* Special issue of *Vierteljahrshefte zur Wirtschaftsforschung*. Duncker& Humblot, Berlin, pp.191-198.

Witte J.C., Kalleberg A.L., 1995. Matching Training and Jobs: the Fit Between Vocational Education and Employment in the German Labor Market. *European Sociological Review*, 11(3), pp.293-317.

Witte M. de, Steijn A.J., 1998. *Automation, Underemployment and Workers' Satisfaction.* Paper submitted to the WES. Cambridge.

Wonneberger B., 1994. *Fehlende Lehrstellen und Fehlqualifizierung als Problem des dualen Systems sowie deren berufsbildungspolitische Behandlung durch Staat, Arbeitgeber und Gewerkschaften in den Jahren 1978 – 1986: strukturelle Mängel der Facharbeiterausbildung.* European University Studies, SeriesV – economics and business management, Lang, Frankfurt/Main.

Zemsky R., 1998. Labor, Markets, and Educational Restructuring. *In:* R. Zemsky, P. Cappelli, eds. *The Changing Educational Quality of The Workforce.* Special issue, Annals of the American Academy of Political and Social Sciences (AAPSS), Vol. 559, pp.77-90.

Zhou M., 1993. Underemployment and Economic Disparities among Minority Groups. *Population Research & Policy Review*, 12(2), pp.139-157.

Zwick T., 2000. Market Power of Skilled Workers Causes Unemployment – So What? *In:* P. de Gijsel, R. Olthoff, T. Zwick, eds. *The Unemployment Debate: Current Issues.* Metropolis, Marburg, pp. 105-124.

Zwick T., forthcoming. Over-qualification Makes Low-wage Employment Attractive. *In:* L. Borghans, A. deGrip, eds. *The Overeducated Worker? The Economics of Skill Utilization.* Edward Elgar, Cheltenham, UK, and Northampton, Mass., USA.

Annex

Classification model of overqualification (West Germany, qualification level by job-requirement level by occupational status)

Job-requirement level	Occupational status	Classification with regard to the degree of congruence between job and education Qualification level gained *Vocational degree* [1]	 *University or post-secondary technical college degree* [2]
No special training required/ Only a short induction on the job	Unskilled/semi-skilled worker	ov	ov
	Skilled worker/foreman/master craftsman	+	–
	White-collar worker in an unskilled job	ov	ov
	White-collar worker in a skilled job	+	+
	White-collar worker in a highly skilled job	–	–
	Self-employed person	ov	ov
	Civil servant	–	–
A lengthy period of coaching at my place of work	Unskilled/semi-skilled worker	ov	ov
	Skilled worker/foreman/master craftsman	+	–
	White-collar worker in an unskilled job	ov	ov
	White-collar worker in a skilled job	+	+
	White-collar worker in a highly skilled job	+	+
	Self-employed person	ov	ov
	Civil servant	+	–
Attendance at special theoretical or practical courses/A certificate of vocational training	Unskilled/semi-skilled worker	+	ov
	Skilled worker/foreman/master craftsman	ad	ov
	White-collar worker in an unskilled job	ad	ov
	White-collar worker in a skilled job	ad	ov
	White-collar worker in a highly skilled job	ad	ad
	Self-employed person	ad	ov
	Civil servant	ad	ad
A university or post-sec. technical college degree	Unskilled/semi-skilled worker	–	–
	Skilled worker/foreman/master craftsman	–	–
	White-collar worker in an unskilled job	–	–
	White-collar worker in a skilled job	–	+
	White-collar worker in a highly skilled job	ad	ad
	Self-employed person	ad	ad
	Civil servant	–	ad

ad: Adequate employment = congruence between job and education (including underqualification).A12
ov: Overqualification = underemployment.
+: Degree of mismatch not clearly determinable.
–: Implausible combination.

1) including: Apprenticeship degree (Lehre); in former GDR: including Berufsausbildung/Facharbeiterabschluß.
Master craftsman degree [former GDR] (Meister DDR)
Full-time vocational school degree (Berufsfachschule)
School of public health degree (Schule des Gesundheitswesens)
Technical college degree [FRG] (Fachschule)
School for civil servants (Beamtenausbildung)
Other vocational degree (sonstiger berufsbildender Abschluß)

2) including: Technical college degree [former GDR] (Ingenieur-/Fachschule DDR)
Post-sec. technical college degree (Fachhochschule)
University degree (Hochschule/Universität)

Other qualification levels used in Tables 1 to 14:
Lower general schooling (Hauptschulabschluß / 8. Klasse)
Intermediate general schooling (Realschulabschluß / 10. Klasse; including Fachabitur)
Higher general schooling (Abitur)

For East German Classification see Büchel/Weißhuhn (1997a).

Source: Büchel/Weißhuhn (1997a).

981

Table 1: Workers broken down by formal vocational skills, the degree of congruence between job and education, and various job characteristics and group-related averages from these characteristic groups (West Germany and East Germany, 1995).

Job characteristics	West Germany					East Germany				
	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With univ. or post-secondary technical college degree: over-qualified	With univ. or post-secondary technical college degree: adequate	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With university or [former GDR] technical college degree: over-qualified	With university or [former GDR] technical college degree: adequate
Pay characteristics:										
– potential gross monthly salary (average, in DM)[1]	3,397	3,235	4,499	4,806	7,162	2,412	2,413	2,958	3,101	4,508
– actual net monthly salary (average, in DM)	1,956	1,917	2,761	2,084	4,605	1,419	1,509	2,023	2,026	2,894
– net hourly pay (average in DM)[2]	13.0	12.3	16.8	14.8	27.5	9.3	9.6	11.2	11.1	15.3
– pay social security contributions[3]	84%	84%	91%	72%	74%	84%	96%	98%	99%	96%
– no agreed wage structure; freely agreed wages	27%	31%	21%	69%	18%	32%	30%	29%	39%	20%
– pay determined by length of service[4]	36%	26%	49%	26%	66%	28%	27%	42%	47%	61%
– have entitlement to company pension[5]	26%	20%	32%	21%	30%	4%	2%	7%	6%	11%
Occupational status:										
– Blue-collar worker	60%	55%	23%	19%	0%	61%	73%	49%	19%	0%
– White-collar worker	30%	25%	59%	47%	53%	34%	21%	41%	65%	81%
– Civil servant	2%	0%	7%	0%	36%	2%	0%	2%	0%	8%
– Self-employed[6]	9%	20%	10%	34%	11%	2%	6%	8%	17%	12%
Employment status:										
– full-time employment	71%	70%	84%	61%	89%	70%	79%	92%	80%	89%
– part-time employment	18%	21%	14%	18%	9%	18%	17%	7%	19%	9%
– minimal/irregular employment	11%	9%	2%	21%	2%	12%	4%	0%	1%	1%
Working time:										
– agreed weekly working time (average, in hours)	33.1	33.4	35.5	36.4	34.9	34.1	36.4	39.1	36.5	37.5
– no firmly agreed working time	15%	26%	13%	44%	21%	20%	10%	10%	20%	14%
– actual weekly working time (average, in hours)	35.3	36.2	39.2	30.2	41.9	37.4	39.7	43.9	41.5	45.2
– overtime worked during the last month (average, in hours)	5.3	6.8	9.7	4.0	15.6	5.5	6.6	8.4	12.1	15.4
– number of agreed working days per week (average, in days)	4.9	5.1	5.0	4.9	5.1	5.0	5.1	5.1	5.1	5.1
– variable/no fixed number of working days per week	9%	12%	10%	33%	9%	7%	5%	10%	12%	7%
– number of working hours per day, if fixed (average, in hours)	7.3	7.3	7.9	8.0	8.6	7.8	7.7	8.5	8.4	8.8
– changeable/no fixed number of hours per day	8%	16%	10%	26%	11%	11%	7%	9%	10%	9%
– Work in the evening or at night (after 19.00)	17%	24%	22%	13%	19%	24%	20%	27%	18%	22%
– Weekend working (Saturday or Sunday)	26%	27%	29%	22%	42%	35%	27%	33%	31%	44%
– desired reduction in working time (average, in hours)[7]	3.3	3.4	5.2	0.8	7.1	4.2	5.3	6.8	6.0	8.7
– Compatibility between working time and family life is a problem[8]	16%	20%	20%	26%	31%	12%	19%	21%	38%	24%

Table 1 (continued)

Job characteristics	West Germany					East Germany				
	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With univ. or post-secondary technical college degree: over-qualified	With univ. or post-secondary technical college degree: adequate	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With university or [former GDR] technical college degree: over-qualified	With university or [former GDR] technical college degree: adequate
Payment of overtime:[7]										
– paid	31%	41%	20%	12%	5%	28%	27%	21%	15%	5%
– time off in lieu	21%	20%	39%	17%	27%	13%	20%	38%	51%	30%
– partly paid/partly given time off in lieu	10%	10%	17%	5%	10%	13%	12%	19%	11%	15%
– no compensation given	6%	4%	11%	18%	46%	11%	5%	8%	18%	40%
– do not work overtime	32%	25%	13%	49%	11%	34%	35%	14%	7%	10%
Sectors:										
– agriculture/fisheries/mining/energy	3%	4%	4%	2%	2%	5%	2%	7%	5%	6%
– chemical industry	5%	2%	3%	5%	4%	2%	1%	2%	1%	2%
– construction, quarrying, minerals	8%	5%	7%	2%	3%	15%	12%	18%	8%	8%
– commerce, banking, insurance	15%	19%	19%	20%	4%	13%	15%	14%	23%	6%
– metalworking, electrical engineering, automobile industry	14%	12%	16%	4%	14%	5%	8%	10%	6%	7%
– public service, transport, tourism	23%	19%	27%	38%	53%	26%	30%	25%	31%	54%
– other	32%	39%	25%	28%	20%	35%	31%	24%	26%	18%
Size of enterprise:										
– small enterprise (less than 20 employees)	31%	28%	27%	40%	13%	33%	38%	32%	39%	19%
– medium-sized enterprise (between 20 and 200 employees)	28%	28%	25%	34%	25%	43%	37%	33%	22%	37%
– medium-sized enterprise (between 200 and 2 000 employees)	22%	28%	22%	10%	22%	12%	15%	18%	24%	21%
– large enterprise (2 000 employees or more)	18%	16%	27%	16%	41%	12%	10%	17%	15%	23%
Length of service:										
– average (in years)	10.2	8.0	11.8	6.1	11.5	4.2	4.2	7.9	5.7	10.1
Duration of employment:										
– temporary employment[8]	6%	7%	3%	23%	9%	24%	26%	7%	6%	11%
Job setup:										
– job-sharing	9%	8%	6%	2%	1%	1%	12%	5%	3%	2%
Journey from home to work:										
– long journey to work (average, in km)[10]	11.0	8.7	14.3	11.6	18.5	35.2	9.0	12.2	9.7	12.5
– length of journey (average, in minutes)[10]	22	24	23	21	27	40	24	31	26	30
– current job not in vicinity of home	41%	41%	50%	46%	49%	37%	37%	40%	38%	28%
– variable place of employment	8%	12%	7%	12%	7%	12%	8%	12%	10%	5%
– journey to work is a great hardship: in financial terms	12%	5%	10%	3%	11%	14%	13%	11%	10%	9%
– journey to work is a great hardship: in terms of time	11%	8%	10%	11%	15%	9%	8%	11%	12%	13%
– journey to work is a great hardship: in physical/mental terms	8%	2%	7%	7%	10%	6%	2%	6%	8%	7%

Table 1(continued)

Job characteristics	West Germany					East Germany				
	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With univ. or post-secondary technical college degree: over-qualified	With univ. or post-secondary technical college degree: adequate	(Without any vocational degree)	With vocational degree: over-qualified	With vocational degree: adequate	With university or [former GDR] technical college degree: over-qualified	With university or [former GDR] technical college degree: adequate
Work requirements: (in each case: „fully applies")										
– variety in the job	45%	39%	66%	57%	78%	52%	47%	67%	64%	85%
– heavy physical work	19%	23%	14%	3%	0%	37%	38%	23%	15%	2%
– self-determined structure of the working day	31%	35%	42%	35%	52%	13%	24%	30%	37%	44%
– working time depends on the amount of work	24%	33%	32%	33%	37%	32%	30%	31%	32%	33%
– strict monitoring of work performance	13%	10%	11%	1%	5%	16%	21%	24%	20%	14%
– rotating work shifts	14%	17%	13%	2%	1%	22%	15%	19%	16%	5%
– often get angry/have conflicts with hierarchical superior[11]	20%	14%	24%	18%	24%	24%	21%	26%	21%	27%
– good relationship with work colleagues	75%	66%	76%	69%	78%	65%	76%	76%	76%	72%
– pay codetermination/promotion of the workforce	6%	6%	12%	11%	22%	3%	3%	6%	8%	19%
– can always undertake training to advance occupational skills	19%	13%	39%	38%	54%	35%	20%	42%	40%	56%
– exposed to noxious substances in the environment	25%	26%	19%	3%	3%	35%	39%	26%	15%	6%
– high mental effort	24%	21%	25%	39%	47%	16%	15%	24%	39%	59%
– increased risk of accidents at work[11]	39%	43%	38%	23%	10%	63%	59%	49%	33%	27%
Subjective estimations:										
– satisfaction with work[12]	6.8	6.7	7.1	5.9	7.0	6.6	6.3	6.9	6.6	7.0
– willingness to take on extra, unpaid work[13]	43%	43%	45%	47%	65%	39%	41%	48%	53%	75%
– great concern over safety in the workplace	9%	12%	9%	2%	5%	23%	37%	23%	17%	24%
– easy to find a similar job[14]	26%	24%	28%	45%	21%	26%	8%	19%	12%	11%
Number of respondents (N = maximum, unweighted)	1,080	540	2,008	77	416	62	265	902	137	330
Total			4112					1699		

All percentages: column percentages (100% divergence rounded up to the next figure). All results weighted.

1) Potential gross monthly salary. In the case of part-time and minimum-time employees, the monthly equivalent, calculated over an agreed working period. Excluding minimum-time employees working less than five hours per week and the self-employed.
2) Excluding minimum-time employees working less than five hours per week and the self-employed.A106
3) Dependent employees = 100 percent.
4) Pay determined by length of service (as well as performance) "on a regular basis" or "sometimes".
5) Excluding the "don't know"s = 100 percent.
6) Including self-employed farmers and members of their family working on the farm.
7) The question was: "If you could choose the number of hours you worked, taking into account that your salary would be commensurate to the number of hours worked, how many hours a week would you prefer to work?" (Compare their answers with their actual working times.)
8) The question was: "It is not always so easy for workers to reconcile working time with family responsibilities and household tasks. Do you find that to be a problem?". The respondents answered: "yes".
9) Dependent employees = 100 percent.
10) Employees with a fixed workplace = 100 percent.
11) The respondents answered: "fully applies" or "partly applies".
12) On a scale from 0 ("totally unsatisfied") to 10 ("totally satisfied").
13) The question was: „Would you put in extra hours to finish off a task you had already begun, even if it meant working for another hour and would not be paid as overtime?" The respondents answered: „yes, of course".
14) The question was: „If you were to lose your current job, would it be easy, difficult or practically impossible for you to find at least one other job that was equivalent?" The respondents answered: „easy".

Only employees below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 2: Determinants of the probability of possessing subjectively limited problem-solving capacity, depending on employment status and other personal characteristics (West Germany and East Germany, 1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	0.031	(0.330)	–	0.830+	(0.458)	–
Male	0.074	(0.048)	0.60	0.009	(0.059)	0.51
Age (in years)	–0.011	(0.016)	39.03	–0.035	(0.023)	40.70
Age²/100	0.015	(0.020)	16.45	0.054+	(0.028)	17.66
Foreigner	0.102	(0.078)	0.15	.	(.)	.
Married[1]	–0.147**	(0.052)	0.65	0.043	(0.075)	0.74
Restricted on account of health reasons[2]	0.518**	(0.053)	0.24	0.249**	(0.064)	0.33
Hauptschulabschluß/8. Klasse	0.121*	(0.054)	0.43	0.247**	(0.085)	0.25
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.072	(0.123)	0.04	0.207	(0.175)	0.03
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.754*	(0.316)	0.01
Berufsfachschule	0.027	(0.084)	0.08			
Schule des Gesundheitswesens	0.070	(0.132)	0.03			
Fachschule (FRG)	0.133	(0.085)	0.08			
Beamtenausbildung	0.036	(0.119)	0.04			
Sonstiger berufsbildender Abschluß	0.112	(0.106)	0.08			
Ingenieur-/Fachschule (GDR)				–0.290*	(0.118)	0.14
Fachhochschule	–0.244*	(0.122)	0.05			
Hochschule/Universität[6]	–0.411**	(0.105)	0.10	–0.336**	(0.123)	0.11
Unemployed/in the hidden labour reserve[7]	0.134	(0.100)	0.08	0.018	(0.112)	0.17
(Underemployed)	.	(.)	.	.	(.)	.
Adequately employed	–0.222**	(0.065)	0.61	–0.223*	(0.093)	0.45
Number of respondents (unweighted): n =		3,285			1,992	
Log-Likelihood		–2149.8			–1265.4	
Likelihood-Ratio-Statistic		222.1**			118.4**	
Dependent variables average (weighted)		0.430			0.631	

Dependent variable: subjectively limited problem-solving capacity (1 = yes; 0 = no). For the exact research strategies, see text.
Significance level: ** = $p < 0.01$, * = $p < 0.05$, + = $p < 0.10$.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including *Fachabitur*.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: *Berufsausbildung/Facharbeiterabschluß;* including nonacademic vocational qualifications from 1991.
6) East Germany: including *Fachhochschulabschlüsse* from 1991.
7) Hidden labour reserve: persons not having registered as unemployed, but wanting to take up a job "as soon as possible".

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Unweighted averages as model documentation.

Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

988

Table 3: Determinants of the probability of possessing high morale, depending on employment status and other personal characteristics (West Germany and East Germany, 1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	1.188**	(0.333)	–	0.628	(0.470)	–
Male	–0.059	(0.048)	0.60	–0.061	(0.062)	0.51
Age (in years)	–0.061**	(0.017)	39.03	–0.060*	(0.023)	40.70
Age²/100	0.071**	(0.020)	16.45	0.069*	(0.028)	17.66
Foreigner	0.063	(0.079)	0.15	.	(.)	.
Married[1]	0.303**	(0.052)	0.65	0.129+	(0.079)	0.74
Restricted on account of health reasons[2]	–0.709**	(0.055)	0.24	–0.514**	(0.070)	0.33
Hauptschulabschluß/8. Klasse	–0.067	(0.054)	0.43	0.050	(0.087)	0.25
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	0.014	(0.123)	0.04	–0.073	(0.184)	0.03
(Lehrabschluß)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				0.352	(0.293)	0.01
Berufsfachschule	–0.026	(0.084)	0.08			
Schule des Gesundheitswesens	–0.161	(0.133)	0.03			
Fachschule (FRG)	–0.054	(0.086)	0.08			
Beamtenausbildung	0.113	(0.120)	0.04			
Sonstiger berufsbildender Abschluß	–0.196+	(0.107)	0.08			
Ingenieur-/Fachschule (GDR)				0.121	(0.124)	0.14
Fachhochschule	0.040	(0.121)	0.05			
Hochschule/Universität[6]	0.187+	(0.103)	0.10	0.289*	(0.128)	0.11
Unemployed/in the hidden labour reserve[7]	–0.343**	(0.102)	0.08	–0.292*	(0.121)	0.17
(Underemployed)	.	(.)	.	.	(.)	.
Adequately employed	0.136*	(0.066)	0.61	0.246*	(0.097)	0.45
Number of respondents (unweighted): n =		3,283			1,997	
Log-Likelihood		–2138.5			–1143.4	
Likelihood-Ratio-Statistic		296.2**			124.2**	
Dependent variables average (weighted)		0.492			0.282	

Dependent variable: morale (1 = high; 0 = [other]). For the exact research strategies, see text.
Significance level: ** = $p < 0.01$, * = $p < 0.05$, + = $p < 0.10$.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including *Fachabitur*.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: *Berufsausbildung/Facharbeiterabschluß*; including nonacademic vocational qualifications from 1991.
6) East Germany: including *Fachhochschulabschlüsse* from 1991.
7) Hidden labour reserve: persons not having registered as unemployed, but wanting to take up a job "as soon as possible".

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Unweighted averages as model documentation.

Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

989

Table 4: Determinants of the probability of people's concern about their own economic prospects, depending on employment status and other personal characteristics (West Germany and East Germany, 1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	–0.177	(0.352)	–	0.864	(0.580)	–
Male	0.048	(0.050)	0.60	–0.009	(0.075)	0.51
Age (in years)	0.050**	(0.017)	39.03	0.026	(0.029)	40.70
Age²/100	–0.081**	(0.021)	16.45	–0.043	(0.034)	17.66
Foreigner	0.251**	(0.088)	0.15	.	(.)	.
Married[1]	–0.008	(0.055)	0.65	0.099	(0.096)	0.74
Restricted on account of health reasons[2]	0.415**	(0.060)	0.24	0.449**	(0.090)	0.33
Hauptschulabschluß/8. Klasse	0.146**	(0.057)	0.43	0.122	(0.112)	0.25
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.136	(0.126)	0.04	0.093	(0.227)	0.03
(Lehrabschluß)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.006	(0.358)	0.01
Berufsfachschule	0.008	(0.090)	0.08			
Schule des Gesundheitswesens	0.184	(0.144)	0.03			
Fachschule (FRG)	–0.089	(0.089)	0.08			
Beamtenausbildung	–0.650**	(0.119)	0.04			
Sonstiger berufsbildender Abschluß	0.043	(0.117)	0.08			
Ingenieur-/Fachschule (GDR)				–0.331*	(0.157)	0.14
Fachhochschule	–0.529**	(0.124)	0.05	.	(.)	.
Hochschule/Universität[6]	–0.668**	(0.107)	0.10	–0.635**	(0.156)	0.11
Unemployed/in the hidden labour reserve[7]	0.431**	(0.121)	0.08	0.348*	(0.179)	0.17
(Underemployed)	.	(.)	.	.	(.)	.
Adequately employed	–0.145*	(0.072)	0.61	–0.404**	(0.128)	0.45
Number of respondents (unweighted): n =		3,281			1,990	
Log-Likelihood		–1900.9			–727.7	
Likelihood-Ratio-Statistic		333.2**			104.8**	
Dependent variables average (weighted)		0.666			0.869	

Dependent variable: great concern about their own economic prospects (1 = yes; 0 = no). For the exact research strategies, see text. Significance level: ** = $p < 0.01$, * = $p < 0.05$, + = $p < 0.10$.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including *Fachabitur*.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: *Berufsausbildung/Facharbeiterabschluß*; including nonacademic vocational qualifications from 1991.
6) East Germany: including *Fachhochschulabschlüsse* from 1991.
7) Hidden labour reserve: persons not having registered as unemployed, but wanting to take up a job "as soon as possible".

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Unweighted averages as model documentation.

Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

990

Table 5: Determinants of the probability of allegiance to a political party, depending on employment status and other personal characteristics (West Germany and East Germany, 1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	–2.235**	(0.357)	–	–0.154	(0.475)	–
Male	0.154**	(0.050)	0.60	0.165**	(0.061)	0.51
Age (in years)	0.083**	(0.018)	39.03	–0.038+	(0.023)	40.70
Age²/100	–0.073**	(0.021)	16.45	0.063*	(0.028)	17.66
Foreigner	–0.389**	(0.083)	0.15	.	(.)	.
Married[1]	0.131*	(0.054)	0.65	–0.039	(0.078)	0.74
Restricted on account of health reasons[2]	0.070	(0.056)	0.24	0.061	(0.065)	0.33
Hauptschulabschluß/8. Klasse	–0.066	(0.056)	0.43	–0.081	(0.086)	0.25
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	0.218+	(0.127)	0.04	0.600**	(0.177)	0.03
(Lehrabschluß)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.433	(0.343)	0.01
Berufsfachschule	0.022	(0.086)	0.08			
Schule des Gesundheitswesens	–0.031	(0.136)	0.03			
Fachschule (FRG)	0.063	(0.089)	0.08			
Beamtenausbildung	0.187	(0.125)	0.04			
Sonstiger berufsbildender Abschluß	–0.383**	(0.112)	0.08			
Ingenieur-/Fachschule (GDR)				0.301*	(0.123)	0.14
Fachhochschule	0.468**	(0.127)	0.05			
Hochschule/Universität[6]	0.573**	(0.109)	0.10	0.602**	(0.127)	0.11
Unemployed/in the hidden labour reserve[7]	0.115	(0.104)	0.08	0.113	(0.114)	0.17
(Underemployed)	.	(.)	.	.	(.)	.
Adequately employed	0.216**	(0.069)	0.61	0.238*	(0.097)	0.45
Number of respondents (unweighted): n =		3,113			1,849	
Log-Likelihood		–1962.9			–1199.1	
Likelihood-Ratio-Statistic		377.0**			94.8**	
Dependent variables average (weighted)		0.601			0.399	

Dependent variable: allegiance to a political party (1 = yes; 0 = no). For the exact research strategies, see text.
Significance level: ** = $p < 0.01$, * = $p < 0.05$, + = $p < 0.10$.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including *Fachabitur*.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: *Berufsausbildung/Facharbeiterabschluß*; including nonacademic vocational qualifications from 1991.
6) East Germany: including *Fachhochschulabschlüsse* from 1991.
7) Hidden labour reserve: persons not having registered as unemployed, but wanting to take up a job "as soon as possible".

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Unweighted averages as model documentation.

Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 6: Types of employment status previously held by underemployed workers, broken down by qualification level and sex (West Germany and East Germany, 1984–1995 and 1991–1995, in %)

West Germany									
Access from:	*With vocational degree*			*With university or post-secondary technical college degree*			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Work commensurate with qualifications	52	33	41	59	40	49	53	34	42
Unemployment/ Hidden labour reserve	29	22	25	13	20	16	26	21	23
Other economic inactivity	6	37	24	0	15	8	5	33	21
(Full-time) training	13	8	10	28	26	27	16	11	13
Total	100	100	100	100	100	100	100	100	100
Number of respondents	398	524	922	69	71	140	467	595	1,062
East Germany									
Access from:	*With vocational degree*			*With university or post-secondary technical college degree*			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Work commensurate with qualifications	48	30	39	70	50	57	53	37	44
Unemployment/ Hidden labour reserve	45	51	48	20	20	20	39	40	39
Other economic inactivity	1	6	4	2	8	6	1	7	5
(Full-time) training	7	13	10	8	21	16	7	16	12
Total	100	100	100	100	100	100	100	100	100
Number of respondents	153	177	330	56	94	150	209	271	480

Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Weighted frequency. Unweighted number of respondents.

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 7: Determinants of the probability of transition to underemployment, depending on the various types of employment status previously held and other characteristics (West Germany and East Germany, 1984–1995 and 1991–1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	–0.669*	(0.278)	–	0.303	(0.472)	–
Male	–0.269**	(0.048)	0.58	–0.032	(0.066)	0.51
Age (in years)	0.006	(0.014)	37.82	0.058*	(0.023)	40.43
Age²/100	–0.035*	(0.017)	15.83	–0.094**	(0.028)	17.79
Foreigner	0.063	(0.067)	0.15	.	(.)	.
Married[1]	0.082	(0.054)	0.63	0.115	(0.082)	0.74
Health restrictions[2]	–0.036	(0.052)	0.28	0.033	(0.071)	0.32
Hauptschulabschluß/8. Klasse	0.390**	(0.052)	0.46	0.181*	(0.090)	0.26
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.416**	(0.135)	0.04	–0.181	(0.200)	0.03
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.126	(0.145)	0.07
Berufsfachschule	0.023	(0.075)	0.09			
Schule des Gesundheitswesens	–0.129	(0.139)	0.03			
Fachschule (FRG)	–0.301**	(0.102)	0.08			
Beamtenausbildung	–0.562**	(0.175)	0.04			
Sonst. berufsbildender Abschluß	0.327**	(0.098)	0.07			
Ingenieur-/Fachschule (GDR)				0.354**	(0.096)	0.15
Fachhochschule	0.618**	(0.110)	0.04			
Hochschule/Universität[6]	0.122	(0.091)	0.09	0.257*	(0.113)	0.10
Profess. success is not important[7]	0.112+	(0.063)	0.16	0.008	(0.109)	0.12
Regional unemployment figures[8]	–0.039**	(0.008)	8.41	–0.170**	(0.013)	15.27
Rural area[9]	0.028	(0.046)	0.56	0.161*	(0.074)	0.73
(Access from adequate empl.)[10]	.	(.)	.	.	(.)	.
Acc. from (other) econ. inactivity	0.497**	(0.065)	0.16	–0.129	(0.167)	0.10
Access from unemployment/ the hidden labour reserve	0.979**	(0.067)	0.10	0.783**	(0.075)	0.22
Access from (full-time) training	0.546**	(0.080)	0.08	0.431**	(0.121)	0.08
No. of respond. (unweighted): n =		4,982			2,615	
Log-Likelihood		–2144.6			–1008.4	
Likelihood-Ratio-Statistic		1325.0**			546.6**	
Depend. var. average (weighted)		0.155			0.173	

Dependent variable: 1 = transition, from one observation year to the next, from one of the various types of employment status (previous employment status) to underemployment; 0 = retention of employment status (transitions between employment status allowed).
Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

1) Including persons living as a married couple.
2) 'Slightly'/'greatly' restricted on account of health reasons in carrying out daily tasks.
3) Including Fachabitur.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: Berufsausbildung/Facharbeiterabschluß; including nonacademic vocational qualifications from 1991.
6) East Germany: including Fachhochschulabschlüsse from 1991.
7) "Professional success" is "not so important" or "quite unimportant", according to German nationals (foreigners were not asked).
8) West Germany: at regional level (BfLR data - [Bundesforschungsanstalt fuer Landeskunde und Raumordnung - Federal Research Institute for Regional Studies and Town and Country Planning]); East Germany: at Land level (relating to place of residence).
9) Number of inhabitants in place of residence < 50 000 inhabitants.
10) Reference date for access status: survey carried out in the previous year to that in which the person's transition to underemployment was first observed.Legend for German expressions: see table 0.

Covariates in brackets = reference category. Reference date for encoding the covariates: first year. Unweighted averages as model documentation.

Only persons having held one of the types of employment status examined (previous employment status) for two consecutive years (in the second year, underskilled work, in addition, is allowed). One observation at the most per person (first occurrence of a possible movement). Only persons with a vocational qualification from Germany below the age of 65. Excluding interviews, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 8: Exit doors from underemployment, broken down by qualification level and sex (West Germany and East Germany, 1984–1995 and 1991–1995, in %)

West Germany									
Access from:	*With vocational degree*			*With university or post-secondary technical college degree*			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Work commensurate with qualifications	43	40	41	74	42	62	50	40	44
Unemployment/ Hidden labour reserve	33	17	24	4	14	8	26	17	21
Other economic inactivity	16	40	30	9	38	20	15	40	29
(Full-time) training	9	3	5	13	6	11	10	3	6
Total	100	100	100	100	100	100	100	100	100
Number of respondents	367	458	825	64	47	111	431	505	936
East Germany									
Access from:	*With vocational degree*			*With university or post-secondary technical college degree*			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Work commensurate with qualifications	38	26	31	69	41	55	45	29	36
Unemployment/ Hidden labour reserve	49	57	54	23	34	29	43	53	48
Other economic inactivity	9	9	9	6	10	8	8	9	9
(Full-time) training	4	7	6	2	14	8	4	9	7
Total	100	100	100	100	100	100	100	100	100
Number of respondents	124	175	299	38	49	87	162	224	386

Only persons having been underemployed in the exit year and observed in one of the types of employment status examined in the following year. Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Weighted frequency. Unweighted number of respondents.

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 9: Determinants of the probability of transition from underemployment or adequate employment to unemployment/the hidden labour reserve, depending on exit status and other characteristics (West Germany and East Germany, 1984–1995 and 1991–1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	0.166	(0.289)	–	1.314**	(0.478)	–
Male	–0.010	(0.050)	0.60	–0.269**	(0.063)	0.53
Age (in years)	–0.085**	(0.014)	39.52	0.002	(0.024)	40.08
Age²/100	0.094**	(0.017)	17.08	–0.001	(0.029)	17.16
Foreigner	0.100	(0.076)	0.15	.	(.)	.
Married[1]	–0.070	(0.054)	0.67	–0.026	(0.081)	0.77
Restricted on account of health reasons[2]	0.154**	(0.052)	0.29	0.021	(0.070)	0.30
Hauptschulabschluß/8. Klasse	0.286**	(0.057)	0.47	0.182*	(0.086)	0.24
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.162	(0.148)	0.04	0.070	(0.203)	0.02
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.197	(0.128)	0.08
Berufsfachschule	0.172*	(0.080)	0.09			
Schule des Gesundheitswesens	–0.159	(0.159)	0.03			
Fachschule (FRG)	0.117	(0.091)	0.08			
Beamtenausbildung	–0.332*	(0.159)	0.04			
Sonstiger berufsbildender Abschluß	0.340**	(0.101)	0.09			
Ingenieur-/Fachschule (GDR)				–0.359**	(0.098)	0.17
Fachhochschule	–0.148	(0.149)	0.04			
Hochschule/Universität[6]	–0.097	(0.110)	0.09	–0.465**	(0.126)	0.11
Profess. success is not important[7]	0.103	(0.066)	0.15	–0.008	(0.106)	0.09
Regional unemployment figures[8]	0.027**	(0.008)	8.33	–0.148**	(0.012)	14.86
Rural area[9]	–0.015	(0.049)	0.57	0.039	(0.071)	0.72
Exit status: underemployment[10]	0.120*	(0.055)	0.24	0.367**	(0.069)	0.25
Number of respondents (unweighted): n =		4,939			2,404	
Log-Likelihood		–1828.5			1053.1	
Likelihood-Ratio-Statistic		634.2**			335.2**	
Dependent variables average (weighted)		0.115			0.212	

Dependent variable: 1 = transition, from one observation year to the next, from underemployment or adequate employment to unemployment/the hidden labour reserve; 0 = (other).
Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including Fachabitur.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: Berufsausbildung/Facharbeiterabschluß; including nonacademic vocational qualifications from 1991.
6) East Germany: including Fachhochschulabschlüsse from 1991.
7) "Professional success" is "not so important" or "quite unimportant", according to German nationals (foreigners were not asked).
8) West Germany: at regional level (BfLR data - (Bundesforschungsanstalt fuer Landeskunde und Raumordnung - Federal Research Institute for Regional Studies and Town and Country Planning)); East Germany: at Land level (relating to place of residence).
9) Number of inhabitants in place of residence < 50 000 inhabitants.
10) Alternative status: adequate employment.

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Reference date for encoding the covariates: first year. Unweighted averages as model documentation.

Only persons having been underemployed or adequately employed in one observation year and interviewed the following year. One observation at the most per person (first occurrence of a possible movement). Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 10: Determinants of the probability of transition from adequate employment within five years (three years for the former East Germany) to unemployment/the hidden labour reserve, depending on a possible interim phase of underemployment and other characteristics (West Germany and East Germany, 1984–1995 and 1991–1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	0.508	(0.393)	–	–0.237	(0.588)	–
Male	–0.284**	(0.071)	0.64	–0.279**	(0.078)	0.56
Age (in years)	–0.096**	(0.022)	35.65	–0.065*	(0.028)	39.29
Age²/100	0.111**	(0.028)	14.00	0.097**	(0.035)	16.49
Foreigner	–0.029	(0.138)	0.09	.	(.)	.
Married[1]	0.031	(0.080)	0.63	0.068	(0.106)	0.80
Restricted on account of health reasons[2]	0.143+	(0.080)	0.23	0.122	(0.088)	0.25
Hauptschulabschluß/8. Klasse	0.189*	(0.077)	0.47	0.106	(0.109)	0.23
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.087	(0.182)	0.04	–0.113	(0.246)	0.03
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.113	(0.138)	0.09
Berufsfachschule	0.085	(0.112)	0.09			
Schule des Gesundheitswesens	–0.244	(0.211)	0.03			
Fachschule (FRG)	0.030	(0.125)	0.08			
Beamtenausbildung	–0.548**	(0.208)	0.05			
Sonst. berufsbildender Abschluß	0.562**	(0.170)	0.05			
Ingenieur-/Fachschule (GDR)				–0.320**	(0.121)	0.17
Fachhochschule	–0.003	(0.211)	0.04			
Hochschule/Universität[6]	–0.008	(0.135)	0.10	–0.359*	(0.144)	0.12
Profess. success is not important[7]	0.292**	(0.088)	0.14	0.449+	(0.140)	0.06
Regional unemployment figures[8]	0.012	(0.010)	8.96	0.032	(0.019)	11.00
Rural area[9]	0.018	(0.068)	0.55	0.112	(0.087)	0.71
Interim phase: underemploymt.[10]	–0.856**	(0.134)	0.15	–0.307*	(0.123)	0.13
No. of respond. (unweighted): n =		2,911			1,536	
Log-Likelihood		–894.0			–702.5	
Likelihood-Ratio-Statistic		223.0**			57.2**	
Dependent variables average (weighted)		0.106			0.215	

Dependent variable: 1 = transition within five years (three years for the former East Germany) from adequate employment to unemployment/the hidden labour reserve; 0 = (other). Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including Fachabitur.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: Berufsausbildung/Facharbeiterabschluß; including nonacademic vocational qualifications from 1991.
6) East Germany: including Fachhochschulabschlüsse from 1991.
7) "Professional success" is "not so important" or "quite unimportant", according to German nationals (foreigners were not asked).
8) West Germany: at regional level (BfLR data - [Bundesforschungsanstalt fuer Landeskunde und Raumordnung - Federal Research Institute for Regional Studies and Town and Country Planning]); East Germany: at Land level (relating to place of residence).
9) Number of inhabitants in place of residence < 50 000 inhabitants.
10) Transition to unemployment/the hidden labour reserve following a phase of underemployment.

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Reference date for encoding the covariates: first year. Unweighted averages as model documentation.

Only persons having been in adequate employment in one of the observation years (1984–1995) (East Germany: 1991–1995) and interviewed within the following five years (three years for the former East Germany). One observation at the most per person (first occurrence of a possible movement). Only persons with a vocational qualification from Germany below the age of 65. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 11: Determinants of the probability of transition from underemployment or unemployment/the hidden labour reserve to adequate employment, depending on exit status and other characteristics (West Germany and East Germany, 1984–1995 and 1991–1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	–0.409	(0.357)	–	–0.023	(0.611)	–
Male	0.239**	(0.059)	0.52	0.292**	(0.086)	0.44
Age (in years)	0.057**	(0.018)	38.96	0.104**	(0.030)	40.91
Age2/100	–0.092**	(0.023)	16.73	–0.152**	(0.037)	18.15
Foreigner	–0.444**	(0.088)	0.24	.	(.)	.
Married1	–0.085	(0.067)	0.67	0.304**	(0.109)	0.75
Restricted on account of health reasons2	–0.142*	(0.065)	0.33	–0.263**	(0.094)	0.35
Hauptschulabschluß/8. Klasse	–0.169*	(0.072)	0.54	–0.212+	(0.115)	0.33
(Realschulabschluß/10. Klasse)3	.	(.)	.	.	(.)	.
Abitur4	0.156	(0.224)	0.02	–0.033	(0.273)	0.02
(Lehre)5	.	(.)	.	.	(.)	.
Meister (GDR)				0.414*	(0.198)	0.04
Berufsfachschule	0.038	(0.097)	0.09			
Schule des Gesundheitswesens	0.141	(0.206)	0.02			
Fachschule (FRG)	0.157	(0.141)	0.04			
Beamtenausbildung	0.397	(0.246)	0.01			
Sonst. berufsbildender Abschluß	–0.469**	(0.122)	0.16			
Ingenieur-/Fachschule (GDR)				–0.122	(0.128)	0.15
Fachhochschule	0.017	(0.149)	0.05			
Hochschule/Universität6	0.118	(0.135)	0.05	–0.116	(0.158)	0.08
Professional success is not important7	–0.345**	(0.082)	0.17	–0.371**	(0.137)	0.15
Regional unemployment figures8	–0.037**	(0.010)	8.28	–0.142**	(0.016)	14.96
Rural area9	–0.103+	(0.060)	0.56	–0.346**	(0.095)	0.76
Exit status: underemployment	–0.358**	(0.059)	0.61	–0.261**	(0.086)	0.43
Number of respondents (unweighted): n =		2,375			1,320	
Log-Likelihood		–1305.3			–608.0	
Likelihood-Ratio-Statistic		584.6**			263.4**	
Dependent variables average (weighted)		0.301			0.226	

Dependent variable: 1 = transition, from one observation year to the next, from underemployment or unemployment/the hidden labour reserve to adequate employment; 0 = (other).

Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

1) Including persons living as a married couple.
2) 'Slightly'/'greatly' restricted on account of health reasons in carrying out daily tasks.
3) Including Fachabitur.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: Berufsausbildung/Facharbeiterabschluß; including nonacademic vocational qualifications from 1991.
6) East Germany: including Fachhochschulabschlüsse from 1991.
7) 'Professional success' is 'not so important' or 'quite unimportant', according to German nationals (foreigners were not asked).
8) West Germany: at regional level (BfLR data - (Bundesforschungsanstalt fuer Landeskunde und Raumordnung - Federal Research Institute for Regional Studies and Town and Country Planning)); East Germany: at Land level (relating to place of residence).
9) Number of inhabitants in place of residence < 50 000 inhabitants.
10) Alternative status: unemployment/the hidden labour reserve.

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Reference date for encoding the covariates: first year. Unweighted averages as model documentation.

Only persons having been underemployed or unemployed/in the hidden labour reserve in one observation year and interviewed the following year. One observation at the most per person (first occurrence of a possible movement). Only persons with a vocational qualification from Germany below the age of 65. Excluding interviews, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 12: Determinants of the probability of transition from unemployment/the hidden labour reserve within five years (three years for the former East Germany) to adequate employment, depending on a possible interim phase of underemployment and other characteristics (West Germany and East Germany, 1984–1995 and 1991–1995, probit model)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	–0.948	(0.674)	–	–3.253**	(1.002)	–
Male	0.640**	(0.122)	0.46	0.401**	(0.152)	0.41
Age (in years)	0.142**	(0.037)	35.91	0.258**	(0.052)	41.85
Age²/100	–0.222**	(0.047)	14.44	–0.350**	(0.064)	19.03
Foreigner	–0.676**	(0.196)	0.20	.	(.)	.
Married[1]	–0.247+	(0.132)	0.61	–0.038	(0.185)	0.78
Restricted on account of health reasons[2]	–0.265*	(0.133)	0.33	–0.465**	(0.179)	0.30
Hauptschulabschluß/8. Klasse	–0.232+	(0.143)	0.53	–0.380*	(0.197)	0.38
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	–0.197	(0.346)	0.03	0.212	(0.422)	0.02
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				0.291	(0.338)	0.04
Berufsfachschule	0.093	(0.193)	0.10			
Schule des Gesundheitswesens	0.372	(0.377)	0.02			
Fachschule (FRG)	0.471+	(0.256)	0.06			
Beamtenausbildung	0.445	(0.465)	0.02			
Sonst. berufsbildender Abschluß	–0.473+	(0.274)	0.11			
Ingenieur-/Fachschule (GDR)				–0.057	(0.241)	0.13
Fachhochschule	–0.445	(0.405)	0.03			
Hochschule/Universität[6]	–0.385	(0.253)	0.06	–0.017	(0.303)	0.07
Profess. success is not important[7]	–0.541**	(0.146)	0.21	–0.093	(0.217)	0.17
Regional unemployment figures[8]	–0.036*	(0.018)	9.51	–0.063*	(0.029)	12.54
Rural area[9]	–0.055	(0.120)	0.53	–0.371*	(0.162)	0.74
Interim phase: underemployment[10]	–1.582**	(0.133)	0.35	–1.409**	(0.182)	0.27
Number of respondents (unweighted): n =		707			463	
Log-Likelihood		–317.7			–212.3	
Likelihood-Ratio-Statistic		373.0**			163.2**	
Dependent variables average (weighted)		0.456			0.307	

Dependent variable: 1 = transition within five years (three years for the former East Germany) from unemployment/the hidden labour reserve to adequate employment; 0 = (other).
Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

1) Including persons living as a married couple.
2) "Slightly"/"greatly" restricted on account of health reasons in carrying out daily tasks.
3) Including Fachabitur.
4) Only in combination with nonacademic vocational qualification.
5) East Germany: Berufsausbildung/Facharbeiterabschluß; including nonacademic vocational qualifications from 1991.
6) East Germany: including Fachhochschulabschlüsse from 1991.
7) "Professional success" is "not so important" or "quite unimportant", according to German nationals (foreigners were not asked).
8) West Germany: at regional level (BILR data - [Bundesforschungsanstalt fuer Landeskunde und Raumordnung - Federal Research Institute for Regional Studies and Town and Country Planning]); East Germany: at Land level (relating to place of residence).
9) Number of inhabitants in place of residence < 50 000 inhabitants.
10) Transition from unemployment/the hidden labour reserve following a phase of underemployment.

Legend for German expressions: see table 0.
Covariates in brackets = reference category. Reference date for encoding the covariates: first year. Unweighted averages as model documentation.

Only persons having been unemployed/in the hidden labour reserve in one of the observation years (1984–1995) (East Germany: 1991–1995) and interviewed within the following five years (three years for the former East Germany). One observation at the most per person (first occurrence of a possible transition). Only persons with a vocational qualification from Germany below the age of 66. Excluding internees, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

998

Table 13: Determinants of income growth, depending on adequate employment at the beginning of the observation period and other influential factors (West Germany and East Germany, 1984–1995 and 1991–1995, OLS)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	0.449**	(0.064)	–	0.418**	(0.134)	–
Male	0.070**	(0.009)	0.61	–0.015	(0.013)	0.54
Age (in years)	0.005	(0.003)	40.04	0.001	(0.005)	40.64
Age2/100	–0.008*	(0.003)	17.42	–0.0002	(0.006)	17.50
Foreigner	–0.044**	(0.014)	0.16	.	(.)	.
Married[1]	0.013	(0.009)	0.67	0.009	(0.016)	0.77
Restr. on acc. of health reasons[2]	–0.024	(0.009)	0.28	–0.027+	(0.014)	0.28
Hauptschulabschluß/8. Klasse	–0.073*	(0.010)	0.46	–0.064**	(0.018)	0.20
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	0.081**	(0.021)	0.04	0.059	(0.037)	0.03
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				0.009	(0.026)	0.07
Berufsfachschule	0.031*	(0.015)	0.08			
Schule des Gesundheitswesens	–0.014	(0.025)	0.03			
Fachschule (FRG)	0.074**	(0.017)	0.08			
Beamtenausbildung	–0.023	(0.020)	0.05			
Sonst. berufsbildender Abschluß	–0.067**	(0.019)	0.09			
Ingenieur-/Fachschule (GDR)				0.127**	(0.018)	0.19
Fachhochschule	0.193**	(0.023)	0.04			
Hochschule/Universität[6]	0.271**	(0.018)	0.08	0.266**	(0.022)	0.12
Profess. success is not important[7]	–0.021+	(0.012)	0.13	0.010	(0.025)	0.06
Regional unemployment figures[8]	–0.003*	(0.001)	8.35	0.001	(0.005)	15.12
Rural area[9]	0.001	(0.008)	0.57	–0.056**	(0.014)	0.70
Initial income/100[10]	–0.014**	(0.0005)	29.21	–0.022**	(0.001)	18.24
Observation period (in years)	0.041**	(0.001)	6.27	0.140**	(0.006)	3.06
Number of times the person has switched companies[11]	0.014**	(0.003)	0.92	–0.036**	(0.007)	0.68
No. of years of econ. inactivity[12]	–0.037**	(0.007)	0.10	–0.045	(0.050)	0.01
Number of years the person could not be observed[13]	0.016	(0.011)	0.09	0.009	(0.032)	0.04
Number of years unemployed/ in the hidden labour reserve	–0.066**	(0.009)	0.11	–0.054**	(0.015)	0.12
At the beginning of the income observation period: in an underskilled job[14]	–0.049**	(0.011)	0.21	–0.056**	(0.016)	0.18
No. of respond. (unweighted): n =		3,396			1,625	
R2adj.		.45			.47	
F value		113.8**			73.6**	
Depend. var. average (weighted)		0.3556			0.4895	

Dependent variable: plotted on a logarithmic scale (final income/initial income) covering the longest possible observation period; "income": potential gross monthly salary, based on information relating to working time (full-time equivalent). Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.
Footnotes 1 to 9: see Table 12
10) Gross monthly salary in DM (full-time equivalent). 11) During the observation period. 12) "Number of years" below: number of years the person held the corresponding employment status during the observation period. 13) Years missing from the panel records (non-response unit). 14) Research strategies: see text. Reference category: adequate employment.
Legend for German expressions: see table 0. Covariates in brackets = reference category. Unweighted averages as model documentation. Reference date for encoding the covariates: final year. Full-time equivalents on the basis of a 40-hour working week. Only persons with a vocational qualification from Germany below the age of 65. Excluding interness, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).
Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

Table 14: Determinants of income growth among adequately employed people, depending on possible interim phases of underemployment and other influential factors (West Germany and East Germany, 1984–1995 and 1991–1995, OLS)

Covariates	West Germany			East Germany		
	Coefficient	(Std.dev.)	Average	Coefficient	(Std.dev.)	Average
Constant	0.496**	(0.065)	–	0.440**	(0.144)	–
Male	0.056**	(0.010)	0.63	–0.026+	(0.014)	0.55
Age (in years)	–0.000	(0.003)	39.56	–0.000	(0.006)	40.58
Age²/100	–0.002	(0.003)	17.03	0.003	(0.007)	17.44
Foreigner	–0.047**	(0.015)	0.11	.	(.)	.
Married[1]	0.014	(0.010)	0.66	0.004	(0.018)	0.77
Restricted on account of health reasons[2]	–0.040**	(0.010)	0.27	–0.021	(0.015)	0.27
Hauptschulabschluß/8. Klasse	–0.070**	(0.010)	0.45	–0.062**	(0.020)	0.19
(Realschulabschluß/10. Klasse)[3]	.	(.)	.	.	(.)	.
Abitur[4]	0.074**	(0.020)	0.05	0.047	(0.038)	0.03
(Lehre)[5]	.	(.)	.	.	(.)	.
Meister (GDR)				–0.024	(0.026)	0.08
Berufsfachschule	0.023	(0.016)	0.09			
Schule des Gesundheitswesens	–0.020	(0.024)	0.03			
Fachschule (FRG)	0.045**	(0.016)	0.09			
Beamtenausbildung	–0.034+	(0.019)	0.06			
Sonst. berufsbildender Abschluß	–0.042+	(0.023)	0.05			
Ingenieur-/Fachschule (GDR)				0.167**	(0.020)	0.17
Fachhochschule	0.177**	(0.024)	0.04			
Hochschule/Universität[6]	0.225**	(0.018)	0.09	0.270**	(0.023)	0.12
Profess. success is not important[7]	–0.005	(0.013)	0.12	–0.026	(0.030)	0.05
Regional unemployment figures[8]	–0.004**	(0.001)	8.36	–0.000	(0.005)	15.11
Rural area[9]	0.008	(0.009)	0.57	–0.041**	(0.015)	0.69
Initial income/100[10]	–0.012**	(0.0005)	30.61	–0.020**	(0.001)	18.85
Observation period (in years)	0.045**	(0.001)	5.96	0.145**	(0.006)	3.01
Number of times the person has switched companies[11]	0.020**	(0.003)	0.86	–0.030**	(0.008)	0.59
No. of years of econ. inactivity[12]	–0.041**	(0.011)	0.07	–0.070	(0.065)	0.01
Number of years the person could not be observed[13]	0.016	(0.012)	0.08	0.033	(0.038)	0.03
Number of years unemployed/ in the hidden labour reserve	–0.071**	(0.013)	0.08	–0.051*	(0.021)	0.08
No. of years underemployed[14]	–0.018+	(0.011)	0.09	–0.055+	(0.033)	0.03
No. of respond. (unweighted): n =		2,835			1,295	
R2adj.		.48			.50	
F value		107.5**			65.5**	
Depend. var. average (weighted)		0.3505			0.4917	

Dependent variable: plotted on a logarithmic scale (final income/initial income) covering the longest possible observation period; "income": potential gross monthly salary, based on information relating to working time (full-time equivalent).

Significance level: ** = p < 0.01, * = p < 0.05, + = p < 0.10.

Footnotes 1 to 9: see Table 12

10) Gross monthly salary in DM (full-time equivalent).
11) During the observation period.
12) "Number of years" below: number of years the person held the corresponding employment status during the observation period.
13) Years missing from the panel records (non-response unit).
14) Research strategies: see text.

Legend for German expressions: see table 0.

Covariates in brackets = reference category. Unweighted averages as model documentation. Reference date for encoding the covariates: final year. Full-time equivalents on the basis of a 40-hour working week. Only persons adequately employed from the beginning to the end of the examination period.

Only persons with a vocational qualification from Germany below the age of 65. Excluding interviews, persons receiving training or further training, and migrants between East and West Germany since 1989. West Germany: excluding immigrants included in the "D" sample of the German Socio-Economic Panel (GSOEP).

Source: own evaluation carried out by the German Socio-Economic Panel (GSOEP).

1000

Forecasting skill requirements at national and company levels

Rob A. Wilson

Abstract

The document reviews recent work on demand and supply forecasts at national level, broken down by sector, occupation and qualification, covering both European and other countries. This includes an assessment of forecasting approaches and results at regional and local levels. A review of the methods used and the results obtained at company level is also presented.

Labour market forecasts can be seen as having two prime roles: first to guide policy decisions made by the government and its representatives; and second, as a general aid to the individual actors operating within the labour market, providing them with information which can aid their own decision making. The fact that considerable efforts to conduct such forecast are going on all over the world suggests that, on balance, such activities are regarded as very useful and worth substantial investment by the public sector.

It is concluded, therefore, that forecasting of the labour market is inevitable. The only real question, is how this should be done. There appear to be two main possibilities:

a) centrally, in a transparent, logical, consistent and systematic fashion, recognising the 'public good' aspects of such work;

b) or in a decentralised, often ad hoc fashion, by individual actors or groups, frequently based on implicit rather than explicit assumptions.

A number of different approaches have been adopted to anticipate changing skill needs. The traditional approach has usually involved formal, quantitative methods, focusing mainly on occupations. More recently, other, rather less formal methods have been developed which have a strong qualitative emphasis. However, many exercises nowadays involve a mixture of both quantitative and qualitative methods, which are regarded as complementary. Increasingly, the focus is moving away from occupations to consider more general aspects of skill requirements.

1001

Table of contents

Summary 563

1. Introduction 565
1.1 Background 565
1.2 Aims and objectives 565
1.3 Methodological approach to the review 566
1.4 Outline of the report 566

2. A general review of employment forecasting 567
2.1 Background 567
2.2 Employment forecasting: a brief history 568
2.3 Criticisms of employment planning 569
2.4 Employment forecasting in the 1990s 570

3. Methodological approaches 571
3.1 Alternative methods 571
3.2 Quantitative modelling 571
3.2.1 Traditional approach to employment forecasting 571
3.2.2 Spatial disaggregation 576
3.2.3 The 'demand' for skills 576
3.2.4 Employer surveys 577
3.2.5 Modelling supply 578
3.3 Qualitative methods 579
3.4 Non-traditional modelling 580
3.5 Focus on local forecasts 580

4. Company level employment planning 581
4.1 Background 581
4.2 Statistical methods in use 582
4.3 Other methods used to project company demand 583
4.4 Evaluation and improvements in company employment planning models 583

5. The importance of the political, institutional and legal contexts 583

6. The importance of statistical infrastructure 585

7. Problems in labour market forecasting 586
7.1 Limits to understanding 586
7.2 Data inadequacies 587
7.3 Methodological difficulties 587

8. Conclusions 588
8.1 Forecasts – Who needs them? 588
8.2 Accuracy and limitations of forecasts 588
8.3 The benefits of conducting forecasts 589
8.4 Preferred methodologies 589
8.5 The importance of the political and statistical infrastructure 590
8.6 Increasing emphasis on local forecasting 590
8.7 Main policy conclusions 590

Bibliography 592

1002

Summary[1]

In the first Cedefop report, Tessaring (1998) reviewed a number of quantitative forecasts of employment by sector, occupation and qualification for several European countries. This included Denmark, Finland, France, Germany, Ireland, the Netherlands and the UK. A prime objective of the current work is to update this review, focusing on new methods, approaches and results and extending the coverage to additional countries. As well as examining practice in Europe, the review also covers recent work conducted in a number of non-European countries, including the USA, Canada and Australia.

The paper focuses on the issue of 'forecasting skills and requirements at national and company levels'. It begins with a review of recent work on demand and supply forecasts at national level, broken down by sector, occupation and qualification, covering both European and other countries. This includes an assessment of forecasting approaches and results at regional and local levels. It provides a comprehensive review of the different methods used and an assessment of their advantages and disadvantages. This includes the recent emphasis on changing generic skill requirements and the use of qualitative methodologies, as well as more traditional quantitative model-based approaches which focus on occupations. A review of the methods used and the results obtained at company level is also presented.

An eclectic methodological approach has been followed in undertaking this review, involving a range of techniques to locate relevant research being conducted in this area. This included a traditional literature search, a computerised literature search using digital databases including the internet and the use of various network contacts including Cedefop itself. A comprehensive bibliography of recent research throughout the Community and beyond has been produced.

The key hypotheses addressed are twofold:

a) first, is labour market forecasting necessary?

b) and second, if the answer to this question is yes, how should they be conducted?

Both the criticisms of forecasting and the counter arguments of its proponents are reviewed in detail.

There is a small, but at times vociferous, group of critics who have decried the value of such activities. They argue, variously, that it is unnecessary, impossible and /or irrelevant. It is argued in the review that most of these criticisms are misguided. In many cases, the criticisms have been constructive and have led directly to improvements in methods and approaches used, including the development of more qualitative methods. In other cases the practitioners involved in making projections have argued, convincingly in the opinion of the present author, that the criticisms are invalid.

There is a much larger body of opinion, therefore, that such forecasts can be of value to a broad range of potential users within a particular geographical area, be it a national economy or a much smaller local area. A strong case can be made that the provision of such projections can be regarded as a valuable *public good*, which should therefore be supported by central government. Labour market forecasts can be seen as having two prime roles: first to guide policy decisions made by the government and its representatives; and second, as a general aid to the individual actors operating within the labour market, providing them with information which can aid their own decision making.

[1] The author is indebted to a number of people who have assisted in this review. The bibliographies in Spanish, Italian and German draw upon the work of a Leonardo project organised by CESOS in Rome. The author is grateful to various colleagues from these countries for provision of this bibliographical material, including Michèle Blin, Jürgen Schultze, Antonio Vergani and Juan Antonio. Geoff Briscoe also made a number of important contributions, especially Section 4, while Barbara Wilson provided invaluable assistance in word processing. The author alone bears responsibility for the opinions expressed and any remaining errors.

1003

Employers, education and training providers and, of course, individual students and workers themselves, all have an interest in trying to peer into the future in order to try to anticipate what may occur and to ensure that their own decisions result in the best possible outcomes (however these might be defined). The fact that considerable efforts to conduct such forecast are going on all over the world suggests that, on balance, such activities are regarded as very useful and worth substantial investment by the public sector.

It is concluded, therefore, that forecasting of the labour market is inevitable. The only real question, is how this should be done. There appear to be two main possibilities:

a) formally, in a transparent, logical, consistent and systematic fashion, recognising the 'public good' aspects of such work (often undertaken centrally);

b) or in an informal, often ad hoc fashion by individual actors or groups, frequently based on implicit rather than explicit assumptions.

A number of different approaches have been adopted to anticipate changing skill needs. The traditional approach has usually involved formal, quantitative methods, focusing mainly on occupations. More recently, other, rather less formal methods have been developed, which have a strong qualitative emphasis. Often this has reflected problems or lack of key data. However, most exercises nowadays involve a mixture of both quantitative and qualitative methods, which are regarded as complementary. Increasingly, the focus is moving away from occupations to consider more general aspects of skill requirements.

The present review of the main forecasting methodologies suggests that a formal, quantitative behavioural, model is a very important foundation stone upon which such forecasting activity should be based. This should, in principle, enable a better understanding of the main factors influencing the supply of and demand for skills. However, it is important to go beyond the traditional 'manpower requirements model', with its focus on occupational employment levels. Most recent work has emphasised the need to consider replacement demands and not just to focus on projected levels of employment. In addition, other more qualitative methods, involving surveys, case study work, focus groups and other techniques have all been found to have the potential for 'adding value' to the more traditional methods. Finally, a key feature of much recent work has been the emphasis on key or generic skills which go beyond the straightjacket imposed by traditional occupational classifications, to look at the skills needed to do various tasks.

It is clear that the political, institutional and legal context, have had a crucial influence in the systems for labour market forecasting which have been developed across the world. In particular, this is reflected in the statistical infrastructure within which the analyst has to operate, including the development of macroeconomic and labour market forecasting models. Most of the countries where fully developed systems are in operation have invested very heavily in such activities over a period of many years. The impact of IT in this area has been immense. In the USA, for example, the development of ALMIS the American Labour Market Information System has facilitated all kinds of research and commercial activities in the area of Labour Market Information (LMI) and labour market forecasting. It has also facilitated the development of local as well as national level forecasts as in the UK.

The main conclusion from the review is that employment projections *can and do* provide a useful aid to policy makers in making decisions about training, recruitment and the personnel issues. It can also provide very useful information to a broad range of other actors in the labour market, including employers, individuals and education and trainer providers. This includes the development of 'early warning systems' to avoid bottlenecks, shortages and imbalances, which have been regarded as a serious problem in many countries. However, it is important to be realistic about the accuracy with which this can be accomplished. The idea of indicative planning

1004

of education and training systems has long been discarded by labour market forecasters.

The value of such exercises depend crucially on the quality of the data upon which they are based, as well as the validity of the various assumptions built into the forecasts. To some extent the latter will depend upon the degree of sophistication of the models adopted, the more sophisticated the model the more likely it is to be able to deal with the many subtle influences on changing employment structures. A substantial investment by the public sector is necessary to support such activity, both to provide the basic data (which may also have a variety of other uses) and to support the forecasting activity itself.

Despite all the various problems associated with such activity, the experience of many countries, particularly the USA, suggests that useful forecasting tools can be developed at European level. This experience suggests that such forecasts can provide helpful information to both labour market participants as well as for policy makers about the labour market environment they are likely to face. It is therefore recommended that a regular European wide labour market forecasting exercise should be undertaken, supported by central government funds. This should include detailed occupational forecasts but also focus more generally on the changing supply and demand for skills (by sector, occupation, region, etc).

1. Introduction

1.1 Background to the project

Tessaring (1998) provided a brief general review of the methodologies used in employment forecasting. The present contribution expands upon this review. It provides a much more comprehensive and in-depth coverage than the Tessaring paper, which was concerned with a rather broader range of issues to do with the future of work. The present review covers the literature on what has traditionally been termed 'manpower planning', including the various quantitative forecasting models used at national level in many countries[2]. However, it also extends the focus to include a number of new approaches to anticipating changes in the pattern of the demand for skills. The aim has been to summarise some of the key methodological issues in employment forecasting. The review also addresses questions concerned with the rationale for forecasting as well as some of the problems and pitfalls associated with it.

1.2 Aims and objectives

The key aims of the review are to provide:

- a summary of recent work on demand and supply forecasts at national level, broken down by sector, occupation and qualification, covering both European and other countries;
- a corresponding assessment of forecasting approaches and results at regional level, including an assessment of the importance of focusing on the local level (which some argue is necessary if such forecasts are to attain full operational relevance) as well as the problems and pitfalls in doing this;
- a comprehensive review of the different methods used and an assessment of their advantages and disadvantages in both national and regional cases. This includes an assessment of the various new approaches being used to anticipate changing skill needs, which have been advocated in recent years as well as a considered review of the various criticisms which have been made of more traditional methods;
- a corresponding review of the methods used and results obtained from assessing the future skill requirements at company

[2] Although this terminology appears increasingly outdated, given pressures towards equal opportunity and the use of non-sexist language, the term 'manpower' remains in regular use. The word planning has also come to be regarded in somewhat derogatory terms in some circles. The present review has adopted the alternative terminology of employment forecasting. This should be understood to refer to the analysis and management of all human resources.

level and their implications for the development of formal and informal skill training within companies;

- an assessment of the relevance of the forecasts for training provision, and the implementation of 'early warning systems' to avoid bottlenecks, shortages and labour market imbalances;

- an assessment of the need for a regular European forecasting activity concerning the supply and demand for skills (by sector, occupation, region, etc.).

1.3 Methodological approach to the review

An eclectic methodological approach has been followed in undertaking the literature search and review. This has involved various techniques to locate any relevant research being conducted in this area, including:

- a traditional literature search using bibliographical indexes;

- a computerised literature search using digital databases;

- use of network contacts:

  - based on the IER's established network, including members of the symposia held at the University of Warwick between 1989 and 1997,

  - contacts through an ongoing Leonardo project,

  - contacts through Cedefop;

- use of the world wide web to search for relevant sites and information;

- use of the IER's own website to attract interest and invite comment on the review as it is progressing.

The aim of all this effort has been to produce a comprehensive bibliography of recent research throughout the Community and beyond. The full bibliography, including subsections in Italian, German and Spanish, is attached to this report.

1.4 Outline of the report

Sections 2 and 3 provide a summary of the literature on general employment forecasting at national and regional levels. This discussion includes a review of the methodologies adopted as well as a summary of the main criticisms of the approach. The employment forecaster's responses to such criticism are also reviewed and an assessment of the benefits and limitations of such work is attempted. Recent changes in emphasis towards local forecasting and more qualitative approaches are discussed.

Section 4 extends the review to cover company level employment planning and forecasting. In parallel with the development of national employment models there was a growing interest during the 1960s in personnel planning at microeconomic level. Company employment planning began in earnest during the 1960s, although some institutions had undertaken this kind of exercise for many years before then. Much intellectual effort has been put into understanding the problems of wastage and recruitment to ensure that companies have the skills they require. Many very sophisticated statistical models have been developed, based on Markov methods. As at national level, the nature of such planning has changed over the years, with much less emphasis today on mechanistic manpower models. Nevertheless there is a considerable amount of effort devoted to forecasting wastage and assessing future recruitment needs. Most major companies and other large employing institutions are now well aware of the importance of human resource planning. Many now have personnel officers in quite senior positions whose main responsibilities are to deal with such problems.

Section 5 considers how the different political, legal and institutional frameworks in individual countries have shaped the kind of work which has been carried out in each case. A particularly important issue is how these factors have affected the statistical infrastructure in each country. This is dealt with

separately in Section 6. The importance of development of standard systems of classification, the need for regular and detailed employer and household surveys on employment structure and the advantages of electronic access via the internet are discussed. Some of the key methodological issues in employment forecasting are reviewed in Section 7. These include: the limits to our understanding of socioeconomic systems; inadequacies in data; and ending with a brief discussion of various other technical, methodological problems. Finally, Section 8 contains the main conclusions.

2. A general review of employment forecasting

2.1 Background

Employment forecasting first became prominent during the early 1960s when economists were concerned about problems of both structural unemployment and labour shortages. Initially, it was hoped that governments would be able to intervene, especially on the supply side of the labour market, to ensure a balance between the demand for and supply of skills.

The initial optimism of the planners was soon dented, both by technical and practical problems in producing accurate forecasts, as well as a barrage of theoretical criticism, which questioned the whole rationale for employment forecasts. Although these criticisms have been rejected to some extent, the nature of the employment forecasting undertaken in the 1990s is now very different from that attempted in the 1960s. Forecasts of both the demand for (and in a few cases the supply of) skills at national level are regularly undertaken in most of the major OECD economies. However these assessments are very different from the indicative type planning exercises attempted by the pioneers of the 1960s. In particular, the attempt to develop a direct link between the changing pattern of demand for skills and the regulation of the intake into education and training courses has now been recognised as impractical in most countries.

Current labour market assessments emphasise the implications of past patterns of change for the future demand for skills, often using quite sophisticated econometric models. The aim is to present policy-makers with information on the labour market environment that they may face if such trends continue. They may also attempt to assess the effect of different courses of action. The information provided by such assessments is only one of the necessary inputs into decisions about the scale and content of different education and training programmes which government officials, education and training providers, companies and trade unions will need to use in developing their strategic thoughts.

However, current thinking, in most but still not all countries, is that the scale of education and training programmes needs to reflect the demand from *individuals*. In most market oriented economies, the latter are regarded as best placed to make choices based upon a vast range of micro as well as macroeconomic information, which a bureaucrat would not be able to take into account. It is felt in many such countries, that individuals need good labour market information to help them make the best choices.

In countries such as the USA and the Netherlands, very detailed information, including forecasts, are regarded as an essential part of this. In many others more general macro level projections are becoming more readily available and are seen as having an important role to play in making young people and others who make career choices aware of labour market trends. While it is recognised that such information may offer only a broad brush picture of the possibilities facing those making training and career development choices, it can provide an important input for use in vocational counselling and guidance by practitioners who are aware of its limitations.

In practice, such projections will often provide only general guidance on such matters, although in some countries much more detailed information is available. In many (if not most) cases, of course, the labour market prospects in a chosen career path will not be the major factor in an individual's decision. Nev-

ertheless, if such decisions are to be made efficiently, it is important that individuals have the best information available, even if they choose to discount it.

Nevertheless, it is important, right from the outset, to recognise the limitations of employment forecasting. It is important to avoid the pitfall of thinking that is possible to develop computerised models which can provide accurate predictions of the future demand for training. The lessons from almost 40 years of research caution against this. Despite these caveats, the present author is firmly of the view that formal forecasts can provide useful information for policy-makers and the various actors in the labour market, as long as it is used in combination with other relevant information and its limitations are recognised.

2.2 Employment forecasting: a brief history

Employment forecasting has been undertaken, in one form or another, for many years. The literature in this area dates back at least to the 1950s. Ahamad and Blaug (1973) wrote of the need to review the previous 20 years of experience of manpower forecasting. In carrying out this review, they identified examples of forecasting for all occupations and for single categories of worker in several developed and developing economies around the world. There is now an enormous literature covering work at both a macro and micro level.

The previous work by Tessaring (1998) covered a limited range of work conducted at national level within a few major European countries. Tessaring (1998) referenced a large number of works, including some general reviews, which have explored these issues, such as Eijs (1994), Heijke (1994) and Youdi and Hinchliffe (1985).

A number of other useful reviews have been conducted, to which the interested reader is referred for more detailed discussion, see for example, Hopkins (1988), Hughes (1991), Colclough (1990), Smith and Bartholomew (1988), Meltz (1996), Haskell and Holt (1999) and, most recently, Strietska-Ilina (1999).

The document by Hughes (1991) contains a particularly comprehensive review of many of the technical issues, including details of work in the USA and Canada. Meltz (1996) reviews the position for Canada, while Heijke (1994) contains chapters by many of the leading European practitioners. Haskel and Holt (1999) have brought things up to date with a critical review of the merits and limitations of such work, albeit focusing on the UK experience[3]. Most recently Strietska-Ilina (1999) has provided a review of practices in France, Germany, Ireland and the Netherlands as well as a number of eastern European countries. The present section attempts to provide a summary of the main features of this literature.

During the 1960s employment forecasting became prominent at national level as economists attempted to advise governments on how to avoid imbalances between the supply and demand for skills, (whether appearing as structural unemployment or skill shortages impeding economic growth). One of the most influential works was done within the OECD-Mediterranean project in the early 1960s, Bombach (1965). At that time it was hoped that detailed employment plans could be developed which could be used to guide policy decisions relating to the provision of educational and training programmes at a very detailed level (i.e. for particular levels of qualifications or skill).

In practice the methods adopted at that time tended to be rather naive and mechanistic. As a result, these early forecasts were usually very inaccurate, especially on the supply side. The typical methods adopted involved linking the demand for particular skills to output projections for different industries, often via some form of input-output model (see for example Parnes 1962). The links were generally a series of fixed coefficients. This assumption was heavily criticised as failing to recognise the possibility of substitution of one factor of production (or skill) for another, (see for example, Ahamad and Blaug 1973).

[3] In a paper prepared for the Skills Task Force, which has been set up to advise the UK Government's Secretary of State for Employment.

1008

2.3 Criticisms of employment planning

Many of the early models used for employment forecasting were not explicitly specified in a quantitative form. Such forecasts could not be evaluated by statistical methods (see Ahamad and Blaug 1973). Where quantitative evaluation did prove possible there were often large errors in the forecasts for different occupations. As might have been expected, the errors tended to increase the longer the time horizon of the forecast. Most of the early demand forecasts were derived from fixed coefficient models which were prone to error. On the supply side the forecasts were highly simplistic, with no attempt to examine the implications of variable retirement or wastage rates.

A number of criticisms of the general manpower requirements approach have been offered (see, for example, Colclough 1990):

- that national level employment planning is irrelevant because markets will respond of their own accord to ensure that the correct skills are produced;
- that the fixed coefficient approach is invalid since it ignores the possibilities of economic substitution;
- that inaccuracies in the assumptions will be compounded making the projections of little value;
- that such approaches focused solely on economic considerations without reference to wider social implications;
- that past imbalances were often ignored and carried forward into the projections;
- that the approach did not allow for interaction between supply and demand factors.

Employment forecasters have rejected all these criticisms. With regard to the first criticism, they point to evidence of market failure (reflected in persistent skill shortages, which seem to be a feature in many countries) and to the long-lags in training (which can lead to temporary but long-lasting imbalances in occupational labour markets).

With regard to the second point they highlight empirical evidence that the elasticity of substitution for skills is low and argue that wage structures tend to exhibit stability over the long term. More recently, improvements in methodology have opened up the possibility of allowing for substitution possibilities explicitly in the econometric models which can be built (although this remains the exception rather than the rule).

The third criticism is rejected on the grounds that the problem of forecasting inaccuracy is not unique to employment forecasting but applies to any economic projections. Evidence does not suggest that employment forecasts are significantly more inaccurate than any others. Moreover, there is considerable evidence that policy makers have found these useful, (see Strietska-Ilina 1999, Borghans et al. 1998 and Meltz 1996).

The fourth point has been answered by introducing a broader range of disciplines into the process and recognising that economics is only one of a number of important considerations to be borne in mind. The fifth and sixth points have been addressed by attempts to deal with these limitations, taking such factors into account explicitly, in a manner which was not possible in the pioneering studies.

More recently, a more general criticism has been characterised by a quotation from a French manager who stated that 'the term planning is imbecilic; everything can change tomorrow' (Mintzberg 1994).

Occupational projections fell into disrepute in France during the 1970s when the fifth and sixth economic plans were blown off course by the oil crisis and subsequent sectoral readjustments. As a consequence, the seventh economic plan abandoned direct confrontation of detailed demand and supply projections, (see Paul 1985). Indeed, occupational projections were omitted altogether from the eighth economic plan. Nevertheless, the demand for occupational forecasts continued, with an in-

creasing emphasis on decentralisation, (see *Commissariat General du Plan* 1991). A review of more recent developments in employment forecasting in France is given in Giffard et al. (1999).

The kind of views expressed by the French manager implicitly assume that planning involves a quite mechanistic process based on the past, that it is more backward than forward looking. However, most practitioners have a much more open-ended view about what planning (and forecasting) can provide. Reilly (1996) sees the process as:

- conscious,
- explicit,
- analytical,
- purposive,
- forward looking,
- dynamic,
- aggregate (broad brush),
- quantitative.

Such a view is certainly characteristic of the philosophy behind much employment forecasting (see for example, Wilson 1994 and Lindley 1994). Indeed, some would argue that one of the main benefits of such activity is in posing the questions rather than providing precise answers (Pascale 1991).

2.4 Employment forecasting in the 1990s

As a consequence, employment planning at national level has continued to be practised, albeit in a less mechanistic and indicative fashion. During the 1990s a growing concensus developed that conventional manpower planning was too mechanistic and inflexible to meet changing economic conditions. Criticisms of conventional employment planning were advanced by Psacharopoulos (1991) and Castley (1996a, 1996b), amongst others. Psacharopoulos (1991) has advocated that manpower planning should embrace a much fuller labour market analysis which would include measurement of wages, wider use of household surveys and skill and educational profiling of the working population. The emphasis has moved away from employment planning towards more general labour market assessment and forecasting, with the emphasis on anticipating change.

Most developed countries now undertake regular labour market projections. However, these are used more as general aid to policy makers and labour market participants to illustrate the implications of a continuation of past patterns of economic and labour market behaviour for the future, rather than as an indicative input into educational planning. It is emphasised by most practitioners that such assessments should be regarded as a broad-brush guide to the sort of environment that labour market participants and policy-makers may face, rather than a crystal ball. It is notable, however, that in some of the far east 'tiger' economies there is greater adherence to the notion of indicative planning than in many western countries.

In some countries, such as the USA and the Netherlands, more detailed projections are still conducted although these are not carried out with the idea of supporting precise indicative planning of education to match changing demand patterns. There are also many recent examples of employment forecasting at below the nationwide level. These include the development of local area employment models and the production of detailed forecasts for key industrial sectors (e.g. the engineering industry) or important occupational subgroups (e.g. highly qualified workers).

Employment forecasts can be subject, of course, to wide margins of error but this does not invalidate them, any more than it does other economic forecasts. One of the key problems in all social science forecasting is that the forecast itself may alter behaviour and indeed this is often a key objective (see, for example, Wilson 1994 and Meltz 1996). In any event, as Cairncross (1969) notes, forecasts should not be taken too literally or as telling policy-makers or individuals what to do. They should be treated as one among many pieces of information, which is needed before taking decisions and which can be used to help evaluate the risks to be faced. Employment forecasts can contribute to the decisions which have to be taken with regard to education, training, and choice of occupation by provid-

1010

ing, as Colclough (1990, p.20) argues, 'a detailed, consistent and plausible picture (if properly done) of how the future might look'.

More recently criticisms of employment forecasting have focused on the question of how relevant traditional occupational projections are for both policy-makers and other labour market participants. One criticism was that many such projections failed to recognise the significance of replacement demands (Dekker et al. 1994). More recently, there has been growing concern that the focus on occupations fails to get to grips with the skill requirements that employers have or the skills which individuals need to acquire to gain and retain employment. The response of the practitioners to these criticisms is discussed below (in Section 3.2.1) but essentially they have extended their analysis to include these elements.

3. Methodological approaches

3.1 Alternative methods

There are a number of different approaches that have been adopted to anticipate changing skill needs. Some, particularly the more traditional approaches, involve formal, quantitative methods. Others, especially some of the more recent attempts, are rather less formal and have a strong qualitative emphasis, involving the use of multidisciplinary methods. Such methods are not primarily concerned with precise quantitative measurement. All of the following have been used at different times and in different contexts. The main approaches that have been used are as follows:

a) quantitative methods:
- mechanistic/extrapolative techniques,
- behavioural/econometric models,
- survey of employers' opinions,
- skills audits;

b) qualitative approaches:
- Delphi techniques (consultation of expert opinion),
- case studies,
- focus groups,
- holistic modelling approaches.

3.2 Quantitative modelling

3.2.1 Traditional approaches to employment forecasting

For many years the dominant technique has been quantitative modelling, using a combination of behavioural/ econometric models as well as more basic extrapolative techniques (where the data are inadequate to apply more sophisticated methods). Typically, quite sophisticated, behavioural models are used, with parameters estimated using econometric methods where the data are good enough to permit. This usually includes the macroeconomic and sectoral employment aspects. More basic extrapolative techniques are used where the data are less adequate, notably for producing more detailed breakdowns of employment by occupation and qualification.

Pioneering work in this area was undertaken in the USA by the predecessors to the Bureau of Labour Statistics (see, for example, Department of Labor 1963 and 1965); in France, where the occupational dimension was included in the fourth economic plan for 1962-65; and in the OECD Mediterranean study (Bombach 1965). This was followed up by work in Canada by the Federal Department of Labour, in Germany by organisations such as the *Institut für Arbeitsmarkt-und Berufsforschung* (Institute for Employment Research – IAB) and in the UK by research conducted by the Institute for Employment Research (IER), funded by the Department for Education and Employment[4]. The US approach is summarised in Figure 1, while a summary of the situation in the UK is given in Figure 2.

A detailed review of the German approach can be found in Tessaring (1997). This highlights the increasing diversity of methods and data sets that have been used to tackle the problem of anticipating labour market change in Germany. The combination of econometric,

[4] When IER first started its work on occupational forecasting in 1975 it was known as the Manpower Research Group, while the DfEE's predecessor, the Manpower Services Commission, managed the research on behalf of the then Department of Employment.

survey and other approaches is typical of the way the methodology for undertaking employment projections has been developing over the past 10 to 20 years.

Similar work has been conducted in many other European countries. Strietska-Ilina (1999) describes the current positions in France, Ireland, the Netherlands as well as Germany. Tessaring's (1998) review also details models used in countries such as Finland, Germany, Ireland, the Netherlands and the UK. Recent reviews of the situation in France, Germany, Italy, Spain and the UK can also be found in a series of papers produced as part of an ADAPT project, (Blin 1999, Schultze and Reimers 1999, Vergani and Muscella 1999, Antonio 1999 and Wilson 1999).

Other countries have made only limited progress in this area. For example, in Austria the collation of key economic and employment statistics is carried out by the Austrian Central Office for Statistics (ÖSTAT) but this body does not carry out any forecasting work. Rather, organisations such as the Institute for Advanced Studies (IHS) do such research. They use a macroeconomic model (link model Austria, LIMA) to produce a set of highly aggregative forecasts. A second set of forecasts is produced by the Austrian Institute for Economic Research (WIFO) who use a model which is capable of some disaggregation into different sectors. The forecasts of these two institutes are critically important and they are presented regularly to government officials and Austrian social partners. Fuller details on the Austrian forecasting approach can be found in Lassnigg and Mayer (1999).

Important work has been carried out outside Europe and the USA. The main national economic model used to forecast employment in Australia and more recently adapted by South Africa, Pakistan, Thailand, Indonesia and China, amongst others, is the ORANI model. Work on this model began at Monash University in 1975 and the original specification of the multisectoral model was described in Dixon et al. (1982). The features of the original model were a facility for multiproduct industrial sectors, elasticities of substitution between domestic and imported goods and services, technical change variables for all commodities, very detailed treatment of key distribution and transport sectors and a regional dimension. This basic model format is published as ORANI-G (Horridge et al. 1998), where 'G' stands for the generic version of the model and details are now available on the internet (www.monash.edu.au/policy/oranig.htm).

The Australian model has been extensively revised and upgraded since its inception. The comparative-static framework has been replaced with dynamic equations arising from stock/flow accumulation between capital stocks and investment and also between foreign debts and trade deficits. Other extensions to the basic model have included systems of government accounts and fuller regional breakdown of model results. The present model contains 112 industries (defined according to the Australian standard industrial classification), which map into some 21 broader industrial groups. A variant on the ORANI is the version developed at Monash (Malakellis and Dixon 1994), which exhibits a higher degree of disaggregation for households, occupations, sectors and regions. In particular it yields employment forecasts for some 283 occupations across some 56 regions.

Improvements in modelling techniques have resulted from the significant investments made in IT equipment and data, as well as from the more general advance in economic scientific methods over this period. All of the governments mentioned above have supported such developments indirectly via their funding of academic research efforts in higher education. The latter has also been facilitated by the effects of the IT revolution on the ability to handle increasingly complex statistical problems with increasingly less effort. Statistical and econometric modelling techniques have been particular beneficiaries. In addition, the general process of scientific advance (which has benefited from the massive expansion of investment in education and research and development worldwide) has had a major impact.

The availability and accessibility of labour market data has gradually improved since the early 1970s, again linked to the IT revolution. This has again been a feature common to all

1012

Figure 1: The US approach to labour market forecasting

The US Bureau of Labor Statistics (BLS) has a long involvement with model-building to forecast employment by industry and occupation for at least 10 years forward. Bureau projections are based upon extensive detailed econometric modelling of output and employment relationships. Data are used from a number of different BLS surveys, current population surveys, Bureau of the Census surveys of business, as well as national income and interindustry accounts. Forecasts are produced for some 500 to 1,000 detailed occupations and some 240 industrial sectors (precise numbers vary with particular types of analysis). The results of the projection exercises are published in a number of journals (the key one being *Monthly Labor Review*), as well as on the internet (http://stats.bls.gov/emphone.htm).

A full up-to-date account of the BLS approach to employment forecasting is provided in *Bureau of Labor Statistics* (1997). They key component of the forecasts if the input-output accounts which are only updated periodically. The most recent set of US forecasts is based on the 1987 input-output matrix which is projected forward using RAS methodology. Similar problems arise in allocating the final demand product groups to detailed commodities and this exercise requires the use of an updated bridge table. The whole modelling exercise critically depends on the maintenance of regular and consistent time series observations on industry and commodity outputs, employment, hours worked, wages and salaries and critically, on occupational staffing patterns. The staffing information is derived from a series of surveys conducted by individual state employment security agencies. These data are complemented by occupational information provided by federal government employees as well as for self-employed workers, agricultural workers and for those employed in the private household sector.

The efficiency of the BLS forecasts is heavily dependent on the quality of its data inputs to the model. Improvements invariably require the development of new or refined data series. The available data is seen as the major limitation on the forecasting exercise. One of the latest developments in the US has been the coming on line of the O*NET system which has been designed to focus on skill needs in great detail and is intended to provide useful information for careers guidance.

these countries as well as to most other European countries. Although there have been some notable set backs, the overall position in the late 1990s is vastly better than when labour marketing forecasting first started[5].

A number of early national economic models which contained a significant employment forecasting dimension were reviewed by Hopkins (1988) for the International Labour Organisation. Amongst the models which were examined were the Cambridge multisectoral model for the UK, the French and Dutch equivalents, as well as the overall OECD interlink model, which was an attempt to tie together some major econometric models in use across the world. Table 1 provides a listing of the link participants in the early 1980s and so shows the international interest in employment forecasting at this date.

Some of the broad conclusions reached by Hopkins (1988) are worth noting, although developments since the early 1980s have served to invalidate some of the findings. The actual prediction records of the major models were found to be very mixed with the most inaccurate sets of forecasts arising from the interlink exercises. Most models were superior to very naive predictions but many did not inspire much confidence with regard to detailed projections. This of course, was a conclusion from many of the very early indicative planning exercises. Nevertheless, the forecasting models were found to be useful for exploring a range of alternative scenarios rather than for making precise predictions.

[5] For example, in the UK, a number of major surveys, including the planned 1976 census, were cancelled and there have from time to time been significant cuts in expenditure on many key national data sets.

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Figure 2: The UK experience of labour market forecasting

The first serious attempt at employment projections in the UK were produced in the late 1970s using a modified version of a static multisectoral macroeconomic model developed by Professor Richard Stone and his colleagues in the Cambridge Growth Project (CGP). Subsequent forecasts used improved versions of this model which was the subject of a continuous programme of development both by the CGP (and its successor, Cambridge Econometrics (CE), a private sector organisation) and the Institute for Employment Research (IER). National government funding from the Department for Education and Employment (DfEE) and its various predecessors supported this work.

More recently, the emphasis in the UK has changed to the local rather than national level. After 1988 the responsibility for delivering government training programmes for young people and the unemployed passed to the local level. Local organisations have often conducted their own surveys of employer's labour and training needs. Many also commission forecasts. Various software packages have been developed to exploit the data collected by DfEE and made available on National Online Manpower Information System (NOMIS).

Careers guidance companies in the UK have also recently been privatised (previously they were part of local government) and are now taking an active interest in anticipating future labour market conditions on behalf of the clients they advise. They also operate at local level. Moreover, education and learning suppliers (colleges, universities, etc.) have been charged with the responsibility of ensuring that the courses they provide are relevant to future labour market needs.

Recently, a new series of Industry Training Organisations (ITOs) have been set up in the UK, operating at national level. These include the Construction Industry Training Board (CITB) which is the ITO for construction and the Engineering and Marine Training Authority (EMTA) which covers engineering. Others cover areas such as agriculture, distribution and security services.

The Skills Task Force is a national body set up by the Secretary of State for Employment in 1998 to assess the UK's future skill needs. It has members from a broad range of companies although it is not intended to be representative. It has commissioned a number of research studies including a major project on skills deficiencies. This research is intended to identify the nature, causes and implications of skills deficiencies in the UK. It involves an eclectic set of research methodologies, including in-depth case studies, large-scale survey work and econometric analysis.

Specification in these early models varied quite markedly and it was subject to much change. Several models used a mixture of econometric modelling combined with expert subjective judgement. A strong case could be made for better specification and the incorporation of a fuller set of labour market variables. Estimation techniques have improved very significantly since the early 1980s and, taken together with greatly enhanced computing power, this has enabled far superior model specifications to be produced. Most of these models were restricted to macroeconomic and employment forecasting, by sectors, although a number have been extended to include further characteristics such as occupation and qualification.

During the 1970s and 1980s many of these countries' governments invested heavily in macroeconomic model development[6]. In the USA and Canada, such work has been undertaken directly by the government. In Canada the work of the Federal Department of Labour

[6] In the UK, this included major programme grants (via the Economic and Social Research Council and its predecessors) to various organisations for the development of general macroeconomic models, as well as the DfEE's own support for work specifically concerned with the labour market. This was substantially reduced in the 1980s and the 1990s due to cutbacks in public expenditure. Currently the DfEE is supporting such activity through the auspices of the Skills Task Force set up by the Secretary of State for Employment.

1014

Table 1: Interlink participants in early 1980s: models for labour market forecasting

Models for OECD countries	
Australia	University of Melbourne
Austria	Institut für Hoehere Studien, Vienna
Belgium	Université libre de Bruxelles
Canada	University of Toronto
Denmark	Danmarks Statistik, Copenhagen
Finland	Bank of Finland, Helsinki
France	INSEE, Paris
Germany, Federal Republic of	Universität Hamburg
Greece	KEPE, Athens
Iceland	LINK Central, Philadelphia
Ireland	Central Bank of Ireland
Italy	Università di Bologna
Japan	Kyoto University
Netherlands	Central Planning Bureau, The Hague
New Zealand	Reserve Bank of New Zealand
Norway	LINK Central, Philadelphia
Portugal	LINK Central, Philadelphia
Spain	Universidad Autónoma de Madrid
Sweden	Stockholm School of Economics
Switzerland	Université de Lausanne
Turkey	LINK Central, Philadelphia
United Kingdom	London Business School
United States	University of Pennsylvania/WEFA, Philadelphia
Yugoslavia	LINK Central, Philadelphia
Models for centrally planned economies	
Bulgaria Czechoslovakia German Democratic Republic	United Nations
Hungary	University of Lodz
Poland	Market Research Institute, Budapest
Romania USSR	Wharton, EFA, Philadelphia
China	Stanford University
Regional models for developing countries	
Africa Asia Latin America Middle East Pacific Far East	United Nations

Source: Hopkins (1988).

has been carried forward by Human Resources Development Canada (HRDC), which is a part of the federal government. In the USA the BLS's work in this area has gone from strength to strength. In the UK, the Institute for Employment Research (IER) an academic research unit has conducted this work for most of the past 25 years, while in Germany and France a combination of academic and public research institutions have led the way.

1015

The approaches to generating national projections have gradually been refined and improved in parallel with the development of macroeconomic modelling more generally. These improvements have resulted from:

- significant investments in methodological advances;
- improvements in techniques and understanding;
- huge increases in the ability to handle and process data;
- improvements in the availability and accessibility of data.

Many of these elements are interconnected and related to the general effects of the IT revolution.

3.2.2. Spatial disaggregation

The approaches adopted in most countries involved the development of national models covering all sectors. From an early stage such analyses have often also included a spatial (regional) dimension.

In the USA, separate results for individual states have been produced for many years. In Canada, although the initial work focused on the national level, demand for more local information soon led to the addition of regional/provincial dimensions (Meltz 1996). Many of the results for other countries, including France and Germany also include regional dimensions.

These developments reflect both institutional factors and data availability. In the case of the UK, for example, detailed analysis of the standard regions of the UK (which include Wales, Scotland and Northern Ireland as well as the nine regions of England have been conducted for many years. However, the UK regional projections only covered sector and not occupation until the early 1990s. The reintroduction of occupational projections at regional level in the UK reflected the shift in emphasis towards local provision of education and training programmes, with the introduction of the Training and Enterprise Councils (TECs and the corresponding LECs in Scotland). More recently this has led to the further narrowing of the geographical scope to a focus on the areas covered by the new regional development agencies.

In France, every region has, since the late 1980s, had a regional employment and training observatory (OREF). These were intended to develop decision-making tools to allow the linking of analysis, data and forecasting for education and training in support of decentralisation. In Germany, the importance of the local dimension has also long been recognised, the role of the *Länder* in education and training provision being critical. These examples highlight the importance of the political, institutional and legal contexts in shaping both what is regarded as desirable as well as what is feasible.

3.2.3. The 'demand' for skills

The demand side of employment forecasting has adopted a variety of different methods. The most common method involves some form of econometric macroeconomic model. In the early days the fixed coefficient, 'Manpower requirements' approach, was the most common method of dealing with the demand side. As noted above, this usually involved making a series of links from gross national product (GNP), or other measures of individual industry output, to employment. From there, further links to the demand for particular skills, were made, usually focusing on occupations. In most of the early employment models the latter links were all in the form of fixed coefficients. More recently the models used have been more sophisticated, allowing for changing coefficients and responses to economic variables such as prices and relative wages.

Details of the methods used have been summarised in Tessaring (1998) and in the earlier review by Hughes (1991), so they are not repeated here. It is perhaps worth noting that most of the early models concentrated on just two main dimensions: industry (or sector) and occupation[7]. More recently, there has been

[7] Having said that, many of the very early studies also had a focus on educational requirements, including qualifications.

more effort to add a third dimension relating to qualification, skill or educational requirements, although such efforts often remain constrained by lack of adequate data.

In the early 1990s criticisms of employment forecasting have focused on the question of how relevant traditional occupational projections are for both policy- makers and other labour market participants. One criticism was that such projections failed to recognise the significance of replacement demands (Dekker et al. 1994). It was emphasised that projections of occupational employment levels failed to recognise the need to replace those leaving the workforce for retirement and other reasons. This has now been remedied in many models (for example, the current models for the Netherlands, the USA, Canada and the UK all now deal with such matters explicitly).

More recently, a key feature of much work has been the focus on key or generic skills which go beyond the straight-jacket imposed by traditional occupational classifications, to look at the skills needed to do various tasks. There has been growing concern that the focus on occupations failed to get to grips with the skill requirements that employers have or the skills which individuals need to acquire to gain and retain employment. The Department of Labor in the USA has been developing the O*NET database, which identifies, defines and describes various aspects of occupations, including the various generic skills typically associated with each job. Much of this information has been made available on the Internet. In the UK the Skills Task Force has also been taking a strong interest in such issues and a number of recent studies have attempted to grapple with this issue (see, for example Haskell and Holt 1998). Green (1998) has tried to demonstrate the value of different types of key and generic skills using hedonoic wage equations, while BSL (1998) have tried to apply such concepts directly, in a skills assessment exercise for Wales. In Germany the IAB has used employer surveys to get more detailed information on the nature of jobs but this has tended to focus more on functions, such as R&D, rather than key skills (such as IT skills).

Thus the simple notion of concentrating upon just two (or three) key dimensions (industry, occupation and possibly qualification) is now being superseded by a multidimensional approach. This involves the use of terms such as functions, tasks, abilities, personal attributes, characteristics and generic skills. In many cases the precise use of these terms has yet to be widely agreed. Until they have been standardised, as is the case for industry and occupation, these dimensions will remain difficult to operationalise. Nevertheless, there seems to be widespread agreement that the two or three dimensional approach adopted in most traditional forecasts, will become increasingly irrelevant to policy-makers and individual labour market actors alike.

3.2.4 Employer surveys

The main alternative approach to anticipating changing skill needs has involved surveys of employers. To many people, it seemed that the obvious way of assessing employers' future skill needs was to go out and ask them directly. In the early days of 'manpower planning' and up until the late 1960s and early 1970s, this was a very popular approach. However, it was the subject of especially strong criticism. This centred upon the lack of any firm theoretical foundation as well as the practical problems of ensuring that all respondents to the survey were adopting common assumptions about the future scenario and that their responses were mutually consistent. For example *all* the firms in an industry cannot increase their market share *simultaneously* (see for example Ahamad and Blaug 1973). It fell into disrepute when projections produced for organisations such as the UK's Engineering Industry training Board (EITB), relating to engineering skills, turned out to be highly misleading. Lack of consistency in the underlying assumptions adopted by the respondents, and in particular conflicting views about future market share, resulted in very inaccurate projections.

Rajan and Pearson (1986) revived such methods in the UK in the mid-1980s. Theirs was a major survey of companies at national level. It was as much concerned with reviewing current trends and their causes as making pre-

dictions for the future. It also took a more qualitative than quantitative emphasis than many of the previous survey studies. Their work showed that this approach could, if used with care, produce useful results. Their main value is where the available data are inadequate to build more sophisticated time series econometric models (and as such they are still widely used in developing countries).

This contrasts with the results from a number recent employer surveys commissioned by TECs in the UK to provide information and intelligence on key issues of concern to themselves and their local economic development partners. Some of these surveys have been of a very ad hoc nature and have produced data of dubious quality.

Others have been conducted in a much more structured and thoughtful manner and have both avoided the worst pitfalls of such approaches and provided valuable insights. A good example of the latter in the UK is the London TEC's employer survey (London TEC Council 1998). This generated a range of information on current structure and performance and immediate future prospects. The results focus on size of firm as a key issue but also move well beyond simple issues of quantitative changes, attempting to discern what is driving the observed changes. Issues of location of plant and inward investment are a key focus. However, the general consensus has been that such surveys can only provide useful indications for a very short period ahead.

There has been something of a revival of interest in this approach in recent years in the UK, with many TECs conducting regular surveys of the employers which they serve. However, these surveys are concerned with a range of issues and often do not attempt to obtain hard quantitative data on future skill demands.

Such approaches have also been popular in a number of other European countries where data from national/official sources are inadequate or do not exist (see for example Vergani and Muscella 1999 and Antonio 1999). However, they can also be an important complementary element to more quantitative modelling approaches. For example, the work of Prognos and the IAB for Germany since the mid 1980s has also made use of such survey results (see Tessaring 1997). They also form an important element in the French approach (Giffard et al. 1999).

Although the value of the employer survey method for obtaining direct *quantitative* data on future requirements has been brought into considerable doubt, it can still have some value in obtaining a more *qualitative* picture about the state of a particular labour market. In such a guise it may have much in common with so-called 'Delphi' techniques used to assess future prospects in areas that are hard to quantify. This approach relies on obtaining a consensus of expert opinion. This method has seen renewed interest in the late 1990s as researchers and policy makers have sought to add value to the basic quantitative approaches based on econometrics. Another aspect which has been given considerable attention in recent years, is the use of such surveys to obtain data about detailed aspects of employers' skill requirements, including information on, so called, key generic skills (see for example Mori et al. 1998).

3.2.5 Modelling supply

On the supply side, the typical approach has been to develop simple stock-flow models relating the total stock of employment in period t to that in period t-1, using an accounting identity linking the main inflows and outflows to the stock. Supplementary models to determine the proportion of the stock that is economically active (and if it is a particular occupation that is of interest, the proportion actively engaged in that particular job) have also been used. The main outflows considered are those due to death, retirement and other exits from the workforce and emigration. The main inflows relate to the flow of new entrants (qualified as appropriate), reentrants to the workforce and migration. If the focus is on particular occupational categories, then interoccupational mobility also needs to be considered. These approaches drew upon micro level company planning procedures, where often very comprehensive and detailed data were available to estimate and model such flows and transitions.

1018

At national level, quite sophisticated systems of demographic accounts began to be constructed in the 1960s in many countries. These were intended to parallel the national economic accounts. However, lack of government interest in most countries (with one or two notable exceptions, such as the Netherlands) has meant that these have not been developed to anything like the same extent as the economic and financial accounts. As a result employment models have not flourished to the same degree as the macroeconomic models based upon the economic data. Nevertheless, employment forecasters have made attempts to fill the information gaps from various ad hoc surveys and to build models which allow for some response in flow and activity rates to economic and other factors.

In the more sophisticated models, detailed econometric analysis of time series data has been undertaken to explain historical changes in rates of flow and economic activity rates, with a view to projecting them into the future. Where data are more limited these rates are assumed fixed or extrapolated from a few observations. Data limitations have meant that in most countries the more sophisticated models are restricted to particular occupational categories, where good information on the various stocks and flows are available (see for example the treatment of highly qualified occupations in Wilson et al. 1990). Only where particular emphasis has been placed on collecting and analysing such data have more general models been developed covering all occupations (see for example the work of Heijke 1994 and the contributions for Germany, Netherlands and the UK in this reader).

It is also worth mentioning that so called skills audits (generally based on surveys of qualifications held by individuals) have also been widely used in recent years to establish the stock of skills available in particular local areas. These are surveys of households rather than employers. They are primarily concerned with assessing the supply of skills rather than the demand side of the labour market. However, such surveys can play a useful part in obtaining a complete overview of the supply demand balance.

3.3 Qualitative Methods

A variety of different types of study and approaches can be considered under this heading. They share in common the fact that they are not primarily concerned with obtaining precise or comprehensive *quantitative* measures of employer's skill requirements but rather a broad brush assessment of current trends and future possibilities. At the same time such studies can often involve a very detailed analysis of the particular circumstances affecting the sectors or occupations under review. They can be very useful in situations where the statistical infrastructure is not good enough to support quantitative model building.

Such methods are being employed in many countries to complement more traditional quantitative approaches. In France, for example, Giffard et al. (1999) describe the use of a variety of techniques to monitor and anticipate change. These have been increasingly popular in France since the more mechanistic quantitative approaches to planning fell into disrepute after the oil crisis of the 1970s and early 1980s. They often involve the input from a number of social partners as well as labour market analysts.

Such methods have also been widely adopted in a number of southern European countries, which do not have such good labour market statistics as some of their northern neighbours (see for example, Vergani and Muscella 1999 and Antonio 1999). Such methods do have some advantages compared to more quantitative ones (which can sometimes give a misleading impression of precision). They have therefore also been used to complement the quantitative methods.

The Delphi approach to forecasting involves pooling the opinions of a number of people (possibly experts of some kind) in order to try to identify the key issues. This can be done in a variety of different ways. The classic method is to bring the experts together in a suitable forum to exchange views and hopefully to develop some form of consensus. Another approach is to interview people and discuss the matter, possibly in a structured fashion. This

can be used to develop 'case studies', which can have some general messages. In this case the researcher/interviewer may be the only one to hear all the views expressed. They have then to make sense of all this, sometimes conflicting, information.

The UK's National Institute for Economic and Social Research has established a long and distinguished track record of such work (see, for example, the various works of Prais, Mason and Steedman listed in the bibliography). Such studies tend to focus primarily on the current situation and often involve detailed international comparisons. Anticipation of future change is generally very qualitative. Nevertheless this can add important insights which complement and support the results of more quantitative projections. This kind of approach has also been adopted in a number of other countries.

Another method, which has become increasingly popular, is to arrange 'focus groups'. Discussion of the topic of interest is then arranged, possibly based around material submitted in advance and possibly involving some kind of facilitator to prompt and structure the discussion. This type of approach is a feature of an ongoing EC ADAPT project being conducted by the UK's Engineering and Marine Training Authority (EMTA 1998). This has also involved partners in other Europe. Many other projects of a similar nature are being conducted across Europe under the auspices of the ADAPT programme. This type of approach has also been adopted in many other studies such as the UK's Merseyside economic assessment (KPMG 1996).

3.4 Non-traditional modelling

A number of analysts have attempted to develop less quantitative, more holistic approaches to assessing long-term futures. Such work is often focused on the notion of sustainable development and social cohesion. In the UK, the Henley Centre study of the future of work in London is a good example (see London TEC Council 1998).

In the Henley Centre approach, local competitiveness is viewed as a function of social cultural and environmental factors as well as purely economic ones. Both long and short-term drivers of competitiveness, thus broadly defined, are distinguished. These are proxied by around 50 different indicators to operationalise the concept. The model does not deliver precise predictions of changes in levels of economic activity. Rather it represents a policy tool for exploring long range issues, developing various scenarios and strategies. Applying the model to London enables the different challenges facing each of its 33 boroughs to be identified and appropriate policy responses to be developed, including implications for skills.

3.5 Focus on local forecasts

As noted above, during the late 1980s and early 1990s, the emphasis in many countries has switched to a more local focus. In part this was supply driven. Improved access to local data, combined with ever increasing computing power, made development of local projections, linked to a national macroeconomic forecast, both easier to conduct and cheap. Much local research has attempted to replicate what is done at national level. However, what is practicable is clearly constrained by the data available. There has also been strong pressure demanding such local emphasis and involvement, many practitioners regarding this as essential if the results are to have practical value.

In France, the emphasis since the early 1980s has increasingly focused on the Regional Employment and Training Observatory (OREF) as a mechanism for analysis of current and future training needs. These observatories have developed a range of methodologies for translating from sectoral change, through occupations and qualifications to training needs. Much of this remains quantitative in approach, but the idea that indicative economic planning of educational needs can be achieved, has been abandoned in favour of a more qualitative multi-disciplinary approach to such issues (Giffard et al. 1999).

Initially, most local projections were fairly rudimentary. A typical approach was to simply apply employment growth rates taken from a national or regional economic forecast to some base year estimates of employment in the lo-

1020

cality. In the UK, for example, such procedures were formalised by IER in the early 1990s with the development of a software package for local forecasting (Wilson et al. 1995). This package was designed to be run on a PC by the local operator. It could be used to develop a variety of employment scenarios for the locality, linked to a particular national/regional forecast produced by IER on an annual basis. Detailed sectoral data for the locality were based on official data, distinguishing around 50 industries. Default employment forecasts for each sector were base on the assumption that the local sector maintained a fixed relationship with the corresponding regional employment figure. Occupational results were spliced on to this by extrapolating the local area's occupational structure within each sector in line with national or regional trends. Various options were possible to enable the user to customise the results, taking into account local quantitative and qualitative information. A similar package based on a spreadsheet approach was developed by Portsmouth Polytechnic (Brettell and Jaffrey 1990). This also included a Leontieff input output employment matrix, enabling rudimentary impact analyses to be conducted.

Rapid advances in computer technology and software, including the adoption of Microsoft Windows as a virtual standard, have facilitated the development of much more sophisticated approaches. In a joint operation with Cambridge Econometrics (CE), the IER developed the first version of the Local Economy Forecasting Model (LEFM) in 1993 (Wilson et al. 1995). This took the basic ideas embodied in the Fortec and the Portsmouth models forward on a number of fronts. The new package was designed to provide local users with a complete economic and labour market model for the local area, constructed as a mirror image of the models used by CE/IER at national level. LEFM provides a detailed disaggregated database, covering all of the usual economic and labour market indicators for the locality. These are all linked by the same kinds of technical and behavioural linkages which one would expect to find in a national model, including a full input output matrix. Corresponding data are also provided within the package for the region within which the local area sits and for the whole of the UK. Links between the local area and the rest of the world are dealt with by modelling the flow of goods and services and of people across the local boundary. The package operates in a Windows environment. It has been designed to be transparent and easy to operate. The results produced are readily accessible and designed for input directly into written reports such as the 'local labour market assessments' which TECs were legally obliged to produce.

LEFMs have been set up for over 100 local areas in the UK since the model was first developed. The main clientele has been TECs. However, the package has also been supplied to local authorities, careers guidance companies and a variety of other clients. It has been used to produce the economic and labour market forecasts which lie at the heart of very many 'local labour market assessments' and related reports. Versions of LEFM have also been set up for countries outside the UK, including Germany and Spain. Emphasis on local forecasting has also been a feature of work in many other countries although this rarely has the same quantitative, model based, emphasis as the UK research.

4. Company level employment planning

4.1 Background

Companies and other employing institutions also have an obvious interest in monitoring their workforces and assessing the implications for recruitment of such factors as the age structure of the workforce, wastage rates, and changing patterns of demand. Indeed the genesis of national employment forecasting can be regarded as work carried out at individual company level. Company level 'manpower planning' (as it used to be termed or personnel planning to use a less sexist term) is now a well established management function. Larger companies and employing institutions often have a specialist personnel manager in quite a senior position to undertake this function.

At the company level, the range of models and methods is, of course, even broader ranging

from very simple rules of thumb to quite complex models paralleling the national level ones described above. These tend to focus more on the short-term than the national models, reflecting the different interests of governments and individual companies. The former are generally more concerned with the longer term development of the economy and the provision of education and training programmes, which involve long lags between entry and qualification. They are therefore much more interested in projections five to 10 years ahead. Companies, on the other hand, often tend to be more concerned with immediate problems connected with recruitment and wastage.

Where the focus is more upon the short term, the assumptions of fixed coefficients are more sustainable. However, the longer term the forecast being undertaken, the more important it is to recognise that such coefficients may be changing because of long-term trend influences as behaviour responds to changing economic circumstances.

There is an enormous literature covering these topics, much of which is far too specific to be of general value, given the aims of this particular review. Nevertheless, it is useful to provide a brief overview of some of the key issues.

4.2 Statistical methods in use

Bartholomew, Forbes and McClean (1995) give a comprehensive review of the various techniques in use to produce company manpower forecasts. This review greatly expands on the earlier work of Lewis (1969) in this area. A great deal of the literature is very mathematical in content, see Vajda (1978), and a large number of the papers appear in statistical or operations research journals. A good summary of the earlier work in company manpower planning is provided by Smith and Bartholomew (1988).

The starting point for most traditional company manpower models is the existing stock of labour resources and the wastage flow from their stock. The mathematics of Markov chains provide a ready modelling framework for predicting such flows. As personnel record systems have improved and new statistical developments in survival analysis have evolved, semi-Markov processes in continuous time have become established. An age-specific approach can be used, rather than just a job tenure-specific method and this model is used to explore alternative scenarios, when an analysis of career patterns is taken into account. The demand side of manpower forecasting calls for a different approach because it is primarily concerned with jobs rather than people. There is no clear-cut demand model to set alongside the Markov processes which are used to model the supply-side, because the demand determinants at company level are very diverse, depending on the organisation.

Marked differences are apparent between the demand for employment in the traded sector (e.g. manufacturing companies) and the non-traded sector (e.g. local government or the health services). There is now a huge body of work about planning in areas such as health services, education services and government administration. Much of this is in the public domain. However, it tends to focus on sector specific concerns. The work in companies operating in the traded sector is extremely diverse. Much of it is highly technical and falls within the boundaries of operational research rather than the broader economic and social science which underlie the national work. A problem in this area is that much of this research is not made public because of concerns about commercial confidentiality.

Where the time series of data is long enough and of sufficiently good quality, regression modelling can be used. Alternatively, if information on causal variables is lacking, a simple trend extrapolation approach can be applied. In its more sophisticated form the autoregressive moving average class of models (ARIMAs) developed by Box and Jenkins (1970) may be used. A common problem at company level remains the relatively short time series of consistent data on which such models can be based. As databases of employment records have developed, opportunities to build better demand-side models for specific company occupations have increased.

1022

4.3 Other methods used to project company demand

Reilly (1996) has recently described some more general and less quantitative approaches to assessing company employment demand. Amongst the methods are work study, which establishes optimal levels of resourcing for planning levels of operation. Associated with this technique, is activity analysis, that can be used to identify the numbers of employees needed for specific tasks. Both methods presuppose the company can accurately determine its future scale of operations from market output forecasts.

Other approaches which could be used are ratio analyses, which assume a fixed relationship between sales volumes and the numbers employed in specific occupations. Such an approach could be amended to allow for productivity growth. Another method is to use benchmarking, whereby staffing in comparable factories and offices is used as the criteria for determining appropriate employment levels.

In many smaller companies demand forecasting (both for output and employment) is achieved by subjective judgement of the senior managers. The criteria for making such judgements is never made explicit, so that forecasting errors cannot be reviewed and there is little opportunity to improve predictive performance from past experience.

4.4 Evaluation and improvements in company employment planning models

Commercial confidentiality shrouds many of the models produced by the corporate sector and so, it is not possible to assess how well they perform in terms of predictive accuracy. As the sophistication of supply-side modelling has increased, the prediction of changes in the existing stock of employees is likely to have become more efficient. Difficulties remain with the models for forecasting demand changes and it seems likely that the shortcomings in this area will be similar to those encountered for the national employment forecasting approaches (see Section 2.2).

Company employment planning models continue to be a valuable tool for the planning of human resources and the development of suitable training and education strategies. The literature continues to produce papers from many different countries which demonstrate the evolution of models used for forecasting employment at varying levels of aggregation. Two recent such studies are the papers by Khoong (1996) and Kao and Lee (1998).

5. The importance of the political, institutional and legal contexts

It is important to recognise that there are significant differences between countries in the approaches to these issues. These differences reflect both different cultural, historical and institutional backgrounds (which influence the general approach to such problems), as well as more specific differences related to data availability (which can constrain what is feasible). It is notable that the availability of good labour market data tends to be positively correlated with levels of national income and wealth. Although it is clear that the higher are national income levels the easier it is to afford what can often be quite expensive data collection and processing activities, a case can also be made that causality may run in the other direction. In other words good labour market information can improve the operation of the labour market and thereby contribute to economic growth and the creation of wealth.

This is certainly a major part of the rationale for the very substantial investments in this area made by the Department of Labor and, in particular, the Bureau of Labour Statistics in the USA. Although the USA is perhaps the classic example of a modern, capitalist economy, both the federal and state governments see fit to invest very heavily in data collection, modelling and forecasting. The situation in many of the richer European countries is similar although few make such large investments as the USA. In other parts of the world, such as the Tiger economies of the Far East, many governments are also

putting considerable emphasis on planning for investments in human capital.

The quantitative, econometric model building approach to anticipating skill needs has probably been most popular and been developed to the greatest degree in English speaking countries. However, many of the countries in northern Europe have also placed considerable emphasis on this approach, including France, Germany, the Netherlands and a number of Scandinavian countries. In a number of cases, they have built on the experience of countries such as the USA, adding their own particular characteristics, reflecting the national institutional framework and the statistical database in their country. In many respects, this has resulted in unique developments, but ones which, in principle have important lessons for other countries.

In the Netherlands, for example, the work of the Research Centre for Education and the Labour Market (ROA) (see, for example, Heijke 1994 and Borghans et al. 1998), has been very innovative. However, it is closely tied to the particular data available in that country, much of which is not collected in the same form elsewhere. The emphasis in ROA's work has been on providing detailed careers advice to individuals. This has shaped its methods and models, resulting in a very detailed emphasis on occupations and educational levels.

In a number of countries in southern Europe, (for example, Italy, Spain and Greece) data systems have not been established to enable the kinds of modelling work conducted in other countries to be carried out, (see, for example, Vergani and Muscella 1999 and Antonio 1999). The approaches adopted there are therefore more qualitative, and based on ad hoc surveys and other methods of obtaining data.

In the UK, the national government has also supported the development of employment forecasting, albeit not in quite the same manner or to the same degree as in the USA or Canada. It provides a good example of how institutional and other constraints influence the nature of the work conducted. The Department for Education and Employment[8] (DfEE) is the national government department responsible for labour market and related issues. It has for many years collected and analysed labour market data based on a range of different sources (unemployment statistics, estimates of employment vacancies, pay and other key labour market indicators)[9].

The DfEE itself carries out some of the analysis of labour market data, but it has a long history of commissioning research on the labour market, including forecasts of future labour demand. Academics and commercial consultants have undertaken this work. In particular, the Institute for Employment Research (IER) received support for developing and running a sophisticated econometric model of the national economy over many years, starting in 1975. This resulted in the production by the IER of an annual review of the economy and employment which looked at future trends in the labour market. This programme of work is described in Figure 2 above. The UK National Skills Task Force has recently recommended that such work be carried out on a regular biennial basis, supported by public funds[10].

[8] Formerly the Department of Employment.

[9] These are collated and published in *Labour Market Trends* (formerly *The Employment Gazette*) and related publications. In addition, the DfEE is responsible for commissioning the labour force survey (LFS) as well as various other evaluations of specific training programmes and policy initiatives. As in other European countries, the LFS was instigated in response to the need to provide statistical data for the European Commission. More recently, it has developed into one of the major sources or labour market data, which is widely used by a vast range of analysts as well as government officials.

[10] There are, therefore, a variety of well-established mechanisms for analysing, identifying and forecasting labour market trends and skill needs in the UK. However, the reliability of estimates based on some of the national surveys (often adjusted to reflect regional conditions) may be questioned. Moreover, the fragmentation at local level means that the quality of information can vary a great deal from one locality to another. The position, in general, remains less well developed than in the USA.

1024

6. The importance of statistical infrastructure

In addition to investment in general economic modelling techniques, through support of research in universities, various national governments have also provided technical support for anticipating skill needs in a number of other ways. The key elements here have been:

- the development of standard systems of classification;
- the introduction of regular national surveys of households and employers;
- the development of means of access to these datasets electronically.

In many countries attempts have been made to develop standard systems of classification for both occupations and qualifications. Such systems are an essential prerequisite for the development of the sound statistical databases which in turn are basic building blocks for robust modelling and forecasting work.

In the USA the current focus of attention is on developing systems for classifying generic skills such as numeracy, literacy, problem solving, social skills, etc. Such developments are in hand in the UK but at a less advanced state. Other European countries, including France, Germany, the Netherlands and Sweden, have seen similar developments.

Sectoral information lies at the core of most macroeconomic models used for employment forecasting. This requires data on employment, of course, but also a range of other data if a fully specified macroeconomic model is to be developed. In most countries, where they are available, such data are based on surveys of establishments. A key issue is whether such data are available at regional and local levels. Without such information development of subnational models and forecasts is greatly constrained. Some countries are well served with regard to such data. The BLS in the USA, for example, conducts a range of very detailed sectoral and occupational surveys. In Germany the *Mikrozensus* (labour force survey) and the establishment panel provide key inputs (cf., for example, Dostal 1999 and Bellmann, in this report).

Until recently, information on occupational structure was, in many other countries, only available from the Census of Population which is usually only conducted rather infrequently (typically every 10 years). For example, until the European labour force survey (LFS) was properly established, with reliable information on occupational employment, the main source of data on this topic in most European countries was the Census of Population (CoP). Other surveys may have contained occupational data but this was not their central purpose and they were inappropriate for many reasons. Even today there are severe problems of comparability both over time and between countries, despite moves towards the use of international standards such as ISCO. Perhaps the most problematic feature has been the lack of a standard system for classifying occupations. Considerable efforts have been made in many countries to standardise such systems across all major surveys, but at present the differences between countries remain significant.

The European LFS is conducted in a broadly similar fashion in all the countries of the European Union. The gradual improvement in the European LFS, and in particular its recent increase in sample size, mean that it is now a prime source of data on occupations. However, it is still limited in its ability to provide accurate data for small geographical areas. Compared to the huge survey of establishments conducted by the Bureau of Labour Statistics (BLS) for the USA, the European LFS provides a very fuzzy and erratic picture of trends in occupational structure. Further improvements will be needed here if models comparable to those described for the USA are to be developed across Europe.

Other data sets also need to be made more accessible and to move towards a standard system of classifying occupations. Such developments could dramatically improve the ability of researchers to monitor trends in occupational and related matters. However,

surveys available in most European countries remain inadequate compared to the much larger surveys conducted by the BLS in the USA which provide a much more accurate picture of skill mix and occupational earnings within sectors.

A major development in making labour market information (LMI) more accessible has been the introduction of systems such as the American Labour Market Information System (ALMIS)[11]. Such national systems, funded by the government, are designed to allow analysts and others direct access to various datasets containing labour market information, via the internet. These datasets include censuses of population, surveys of employers, household surveys and surveys of earnings. The availability of ALMIS in the USA has led to a vast expansion of activity related to the processing and dissemination of LMI, including the development of a range of commercial services aimed at providing a forward look at the labour market, and an enormous growth of activities based on accessing, processing and disseminating these data.

7. Problems in labour market forecasting

It is important to recognise the limitations of what can be achieved using current best practice methods. Even the most sophisticated models available suffer from a range of problems. Some of these are, in principle, things which might eventually be solved. Others are likely to remain intractable for the foreseeable future. These problems can be discussed under three main headings:

a) limits to understanding,

b) data inadequacies,

c) methodological difficulties.

7.1 Limits to understanding

The world is a very complex place. Most socioeconomic variables are the outcome of the decisions and actions of many different individuals and institutions. Chance factors, acts of God, in addition to well laid plans influence the eventual outcome. In developing models to explain behaviour, the objective is to identify and isolate the key factors which are held to affect the variable of interest. This is often much easier said than done. It is often quite difficult to disentangle the various influences which are thought to be important.

Most models are set up on the basis that behaviour is fixed. This itself may be a questionable assumption, especially in the social sciences. Behaviour may alter in response to new events or changes in exogenous variables (that is variables whose own determination lies outside the system being modelled). In some cases behavioural relationships may lie hidden because previously unexperienced influences come into play. A good example of this was in macroeconomic models used to explain aggregate consumption during the 1970s. These failed to include inflation as an explanatory variable until inflation reached significant levels in the 1970s. Inflation had always been a potential influence but its effect remained hidden while it was not at a high level. Until this was recognised by the modellers, their models produced biased forecasts.

In producing any particular forecast a view must be taken about any exogenous factors that may be important. For example, government policy is frequently regarded as exogenous because of the difficulties in modelling the political process. This does not mean to say that such matters are unimportant. Typically, the sensitivity of the forecast to alternative assumptions about such matters is assessed by developing a range of scenarios rather than just a 'fixed point' forecast. Major economic traumas in the rest of the world economy may need to be dealt with in a simi-

[11] Similar systems have been developed in some European countries. The equivalent in the UK, for example, is the National Online Manpower Information Service (NOMIS). In the UK charges are imposed for access to these data, with different rates for com nercial and academic use. NOMIS allows detailed data to be obtained for quite small geographical areas, such as local authority districts (of which there are almost 500). However, there are some limits imposed by DfEE because of reasons of confidentiality as well as other constraints imposed by considerations of statistical reliability.

lar fashion. Few national employment forecasters attempt to model explicitly what is going on in the world economy, even though it may be a key driver of domestic employment.

Some other, non-economic events, such as earthquakes, may also be regarded as 'unforeseeable' in the context of forecasting the labour market. Such 'acts of god' are regarded as inherently beyond the understanding of the model (although in another context geologists may make serious attempts to forecast such events).

7.2 Data inadequacies

A major problem area in much forecasting work relates to data. This may reflect lack of data on key variables, for example, accurate and detailed data on occupational employment and occupational earnings, as well as many important labour market inflows and outflows. It may also reflect inadequate data in terms of timeliness, accuracy and fitness for the purpose it is being used. Frequently the data available are lacking (for example, labour market flows). Often they have been collected for a different (often administrative) purpose and are therefore less than ideal for the development of a forecasting model. There is no substitute for good quality, regular information. Unfortunately it is often not until model building has begun that is possible to accurately identify data requirements. In the first instance, of course, it is necessary to do the best one can with whatever data are available. Data problems remain a key constraint to the development of employment forecasting tools in many countries. While a few, such as the USA, have very good systems, many others, including many European countries have to muddle through using what limited data are available. In other countries, even the basic data needed to build detailed multisectoral models (such as detailed measures of sectoral output and related economic accounts) remain a dream.

7.3 Methodological difficulties

Econometricians have identified a whole series of methodological problems in the development of time series models. This is not the place to go into such issues in detail. For this, the reader is referred to a standard econometrics textbook. However, it is helpful to rehearse some of the main problems. One class of problems comes under the heading of multicollinearity. Most variables in economics are highly trended it is therefore often very difficult to disentangle the separate influences of different -variable. It is also too easy to discover spurious relationships which simply reflect the fact that two unrelated variables are both trended (and therefore closely correlated) while in reality there is no relationship between them. A second class of problems relates to simultaneity. Variable X may depend on Y but Y may also depend on X. Technically Y is said to be an endogenous variable, that is a variable determined within the system that is being modelled. This contrasts with an exogenous variable which is entirely determined by factors outside the system being modelled. Considerable care is required in such circumstances if misleading inferences are not to be drawn. It is of course a truism that nothing is truly exogenous and that everything depends upon everything else. The trick is to identify which are the essentially exogenous variables in any system and which need to be treated as simultaneously determined.

Various other technical pitfalls await the unwary forecaster, such as serial correlation, heteroskedasticity and omitted variable bias. This is not the place to discuss such matters in detail. Suffice it to say that in developing a satisfactory forecasting model, due consideration needs to be given to avoiding falling into such traps, if the forecasts are not to mislead rather than guide policy-makers.

There have been numerous methodological advances in this area in recent years which have been aimed at addressing these technical problems. However, it is probably true to say that these lessons have yet to be fully implemented in the practices of most labour market forecasters. However, this is not a reflection of the failure of such analysts to recognise the need to improve their methods so much as the difficulty of applying these new techniques when dealing with so few time series observations.

8. Conclusions

8.1 Forecasts – Who needs them?

The world is an uncertain place. In this context, almost everyone is involved in planning and forecasting, even if this amounts, in practice, to assuming implicitly that there will be 'no change'. It has been argued by employment forecasters, that since some forecasting of the labour market is inevitable, it is better that they be done in a logical, consistent and systematic fashion. There is a large body of opinion that such forecasts can be of value to a broad range of potential users within a particular geographical area, be it a national economy or a much smaller local area. At one level are policy makers charged with the responsibility of setting the institutional framework and delivering government policy. At another level are those concerned with providing goods and services, including education and training programmes. Employers, educationalists and, of course, individual students and workers themselves, all have an interest in trying to peer into the future and to ensure that their own decisions result in the best possible outcomes (however these might be defined)[12].

Forecasts can therefore be seen as having two prime roles: first to guide policy decisions made by the government and its representatives; and second, as a general aid to the individual actors operating within the labour market, providing them with information which can aid their own decision making. The degree of emphasis on these two elements differs quite significantly between countries.

Against this view must be set opinions of the smaller but at times vociferous group of critics, who have decried the value of such activities. They have argued, variously, that it is unnecessary, impossible and /or irrelevant to carry out employment forecasts. In many cases, however, their criticisms have been constructive and have led directly to improvements in methods and approaches used, including the development of more qualitative methods. In other cases the practitioners have argued, convincingly in the opinion of the present author, that the criticisms are invalid. The fact that considerable efforts to conduct such forecast are going on all over the world suggests that, on balance, such activities are generally regarded as very useful and are perceived as having real value.

8.2 Accuracy and limitations of forecasts

It is important, of course, to have a clear appreciation of the limitations of any forecast. Forecasters do not have a crystal ball and cannot foresee the future precisely. Nor are they concerned to 'plan' in an indicative sense. Rather, they try to map out the consequences of a series of assumptions about patterns of behaviour and policy stances for likely future developments.

As set out in Section 7 there are severe limitations in our ability to forecast. These include:

- data problems – there is often considerable difficulty in establishing the current position let alone forecasting the future. These difficulties may be especially acute at local level;
- limits to understanding – although the social sciences have made considerable strides over recent years there are still major gaps in our knowledge about how systems and individuals behave;
- past behaviour may not always be a good guide as to how things will develop in the future;
- there are technical difficulties in forecasting which are often ignored due to data limitations (multicollinearity, serial correlation, simultaneity bias, etc.);
- a final set of problems relates to the fact that many events are inherently unpredictable (such as earthquakes or other acts of god, political events, etc.).

[12] This information may need to be processed and moderated by careers guidance counsellors in order to be of value in making individual training and career choices.

8.3 The benefits of conducting forecasts

The production of a formal forecast or set forecasts for a particular area should not be seen as an end in itself. Rather it is best regarded as part of a process of improving understanding about what is going on in the economy and the associated labour market. This understanding can then guide policy makers and other actors operating within the local economy (such as individual workers, students and employers) to better decisions. The main benefits can therefore be summarised as follows:

- the aims and objectives of intervention can be made clearer and the ability to evaluate policy can help to establish a virtuous circle;
- forecasts can provide a focus for discussion and cooperation ('posing questions') and may help to breakdown old misperceptions about labour markets;
- forecasts should enable those involved to take a more strategic, rather than a firefighting, approach to problems as the implications of current trends and outcomes for the future are explicitly explored;
- finally, forecasts can also provide important information and guidance to individuals enabling them to make better decisions about their own futures, although this may need to be moderated by expert careers guidance counsellors to be of most value.

8.4 Preferred methodologies

A number of different approaches have been adopted to anticipate changing skill needs. The traditional approach has usually involved formal, quantitative methods. More recently, other, rather less formal methods have been developed which have a strong qualitative emphasis. Often this has reflected problems or lack of key data. However, many exercises nowadays involve a mixture of both quantitative and qualitative methods, which are regarded as complementary.

With regard to quantitative methodologies, on the demand side, best practice increasingly involves more sophisticated econometric techniques, enabling quite complex behavioural models to be developed. Often this is now employed in conjunction with surveys of employers, asking them more or less directly about their future skill needs. Until recently, the latter had fallen into disrepute but is currently seeing something of a revival, albeit in a modified form.

On the supply side the main methods used usually involve a stock-flow approach. This projects future stocks from current levels by predicting inflows and outflows. In the early models this was usually done on the basis of assuming fixed rates of flow based on past data. However there is much evidence accumulating that such flows are dependent on economic and other variables. The focus of such models tends to be on the existing workforce, inflow rates and wastage rates. Better data are now becoming available enabling something approaching a full set of demographic accounts to be developed in some countries at the leading edge of such work. As such data are improved, this will facilitate the modelling of transition rates between the numerous states of training, employment, unemployment, etc.

Although the present review of the main forecasting methodologies suggests that a behavioural model is the most appropriate approach (which should, in principle, enable a better understanding of the main factors influencing the supply of and demand for skills), more basic time series models may also provide a useful supplement in situations where data limitations preclude the more sophisticated approach.

Most recent work has emphasised the need to consider replacement demands and not just to focus on projected levels of employment[13]. In addition, other more qualitative methods, involving surveys, case study work, focus

[13] Although this has been done in some countries such as Germany since the 1970s, albeit not always in a detailed breakdown by single occupations or fields of study.

1029

groups and other techniques have all been found to have the potential for 'adding value' to the more traditional methods. A key feature of much recent work has been the focus on key or generic skills which go beyond the straight-jacket imposed by traditional occupational classifications, to look at the skills needed to do various tasks.

8.5 The importance of the political and statistical infrastructure

When comparing the different approaches used to anticipate future skill needs in different countries, it is clear that the political, institutional and legal context, have had a crucial influence. In part, this is reflected in the statistical infrastructure within which the analyst has to operate. The latter has a particularly important influence. Without good data it is impossible to build some of the more sophisticated models. Statistics are of course only part of the story. The development of macroeconomic and labour market forecasting models is a very slow and expensive business. Most of the countries where fully developed systems are in operation have invested very heavily in such activities over a period of many years. While new IT developments mean that it is now much easier to duplicate such effort and possibly to 'piggy-back' on what other countries have already achieved, it is less easy to suddenly invent a long time series database, which lies at the heart of most models.

The impact of IT in this area has been immense. In the USA the development of ALMIS the American Labour Market Information System has facilitated all kinds of research and commercial activities in the area of LMI and labour market forecasting. This has also been a feature in some European countries. For example, the DfEE has supported the development of the equivalent UK National Online Manpower Information System (NOMIS). This provides online access to labour market information via the internet to anyone with the appropriate technology. It includes all the major data sets for which DfEE is responsible[14]. This has led directly to the development of many new local products and services.

8.6 Increasing emphasis on local forecasting

In recent years, there has been an increasing tendency towards devolving power to smaller geographical units in many developed economies. This has led to an increased demand for labour market information (LMI) and, in particular forecasts, at local level. As the perceived need for information at local level has grown, so the capacity of the databases and the power of equipment required to process data have increased. The information revolution has gathered pace over the 1980s and early 1990s and analysts and policy-makers now face the prospect of an enormous increase in the amount of information available. Data are becoming more easily available in many ways, with the introduction of on line databases, the increasing ease with which large survey databases, such as public censuses, can be accessed and the growing power of computers to process this information.

However, in some respects, there is a danger of being overwhelmed by the mass of data available and a key problem is to avoid information overload and to sort out the key messages. As at national level, local forecasts are intended to identify the key trends and to highlight the main issues that will be important in the future. In these circumstances, analysts have begun to develop tools, which bring together relevant information about the local economy and present it in an easily digestible form. At the same time, these tools can draw out the implication for the future of continuation of past trends as well as enabling 'what if' scenarios to be developed. A basic aim is to convert basic labour market information into useful intelligence, which can be used to guide important decisions. Another objective, in many cases is to empower the local analyst by providing them with the tools to undertake their own forecasts.

8.7 Main policy conclusions

The main policy conclusion from this review is that employment forecasting *can and does*

[14] Charges are made for accessing these data and there are strict controls to ensure confidentiality.

provide a useful aid to policy-makers in making decisions about training, recruitment and the personnel issues. It can also provide very useful information to a broad range of other actors in the labour market. This includes employers, education and trainer providers as well as individuals, although the need for such information to be moderated by careers guidance counsellors and others is strongly emphasised in many countries.

However there are strong limitations to what such exercises can do and it is clear that they do not offer a crystal ball from which the precise details of the future can be gleaned. Rather they spell out the implications of a series of assumptions about future developments based on certain relationships representing a continuation of past patterns of behaviour. Appropriately done, they can provide a transparent, logical, consistent and systematic view of what the future might look like given these assumptions.

The value of such exercises depend crucially on the quality of the data upon which they are based, as well as the validity of the various assumptions built into the forecasts. To some extent the latter will depend upon the degree of sophistication of the models adopted, the more sophisticated the model the more likely it is to be able to deal with the many and subtle influences on changing employment structures. Naive, mechanistic models are, unless used very carefully, likely to mislead rather than inform. On the other hand, increasing detail, complexity and sophistication of some models can rapidly run into decreasing returns, unless backed up by data and analysis of equivalent quality. Increasing detail and complexity can also reduce transparency. It also makes it less easy to identify simple causes and effects, as for example, in econometric models with several thousands of equations. Some forecast evaluations suggest that 'native' models, at a more aggregate level, are not necessarily of lower accuracy than more complex and detailed ones.

It is also important to emphasise the many problems and difficulties that face many forecasting exercises of the kind reviewed here. Gaps and inadequacies in the database set limits on what is feasible. Methodological problems further compound the difficulties that the forecaster faces. The sheer complexity of the real world and the difficulty of identifying and isolating the key influences on the supply of and demand for skills must not be underestimated. A major reservation on forecasting is that despite all the effort on forecasting activities since the 1960s and 1970s, this has not been able to prevent unemployment and over-education. The jury remains out on whether this is because of the inadequacies of the projections themselves, or whether it reflects the fact that policy makers and others have ignored them (or possibly failed to act appropriately).

Despite all these caveats, the experience of many countries outside Europe, particularly the USA, suggests that useful forecasting tools can be developed at European level. This experience suggests that such forecasts can provide helpful information to both labour market participants as well as for policy-makers about the labour market environment they are likely to face. It is therefore recommended that the possibility of developing a regular European-wide labour market assessment, including detailed occupational forecasts, be given serious consideration.

1031

Bibliography

English

Acemoglu D., Pischke J., 1995. *Why do firms train? Theory and evidence* MIT, Department of Economics, mimeo, November.

Ahamad B., Blaug M., eds., 1973. *The Practice of Manpower Forecasting.* Amsterdam: Elsevier.

Ahamad, B., 1973. Canada. *In:* Ahamad B., Blaug M., eds. *The Practice of Manpower Forecasting.* Amsterdam: Elsevier.

Allen H., MacCormick B., O'Brien R., 1991. Unemployment and the Demand for Retraining: An Econometric Analysis. *Economic Journal*, 101, 405, pp. 190-201.

Antonio J., 1999. *The anticipation of labour demand, occupational profile and training needs at local level: Approaches, methods and tools.* Leonardo Programme, Spain National Report, Fundacion CIREM, Barcelona.

Armstrong H.W., 1993. The Local Income and Employment Impact of Lancaster University. *Urban Studies.* **30** (10), 1653-68.

Ashton D., Green F., 1996. *Education, Training and the Global Economy,* Edwar Elgar, Cheltenham (UK).

Barker T.S., 1989. *MDM8 Users Manual: The Cambridge Multisectoral Dynamic Model Version 8.* Cambridge Econometrics: Cambridge.

Barker T.S., Peterson A.W.A., eds., 1987. *The Cambridge Multisectoral Dynamic Model.* Cambridge: CUP.

Bartholomew D.J., Forbes A.F., McClean S.I., 1995. *Statistical Techniques for Manpower Planning.* John Wiley: Chichester.

Batey P.W.J., Madden M., Scholefield G., 1993. Socio-economic impact assessment of large-scale projects using input-output analysis: A case study of an airport. *Regional Studies,* **27** (3), 179-91.

Becker G., 1964. *Human Capital,* New York, Columbia University Press.

Bell D., 1995. *Managing labour turnover,* Incomes Data Services, No. 577, May.

Benninson M., Casson J., 1983. *The manpower planning handbook,* IES reprint.

Bevan S., 1987. *The management of labour turnover,* Report 137, Institute of Manpower Studies.

Bevan S., 1990. *Staff retention: What you can do about it.* Institute of Manpower Studies.

Bevan S., 1993. *Skill Mix and Working Practices in Hospital Pharmacy,* Report 241 and 241A, Institute of Manpower Studies.

Bierhoff H., Prais S.J., 1993. Britain's industrial skills and the school-teaching of practical subjects: comparisons with Germany, the Netherlands and Switzerland. *National Institute Economic Review*, 144, May.

Billings R.B., Katz J.L., 1982. A technique to obtain accurate impact multipliers for individual firms by means of existing input-output models. *Environment and planning* A. Vol. 14, 739-44.

Blin M., 1999. *The anticipation of labour demand occupational profile and training needs at local level: Approaches, methods and tools.* Leonardo Programme, French National Interim Report Tempo, Paris.

Blundell R., Deardon L., Goodman A., Reed H., 1997. *Higher education, employment and earnings in Britain*, IFS, London.

Blundell R., Deardon L., Meghir C., 1997. *The determinants and effects of work-related training in Britain,* IFS, London.

Bombach G., 1965. Forecasting requirements for highly qualified manpower as a basis for educational policy. *In*: OECD. *Human Resources Development: Manpower Forecasting in Educational Planning.* Paris: Organisation for Economic Cooperation and Development.

Booth A. L., Snower D., 1996. *Acquiring skills, market failures, their symptoms and policy responses.* Cambridge University Press, Cambridge.

Booth A., Snower D., 1996. *Acquiring skills.* CEPR and Cambridge University Press, Cambridge, UK.

Borghans L., de Grip A., Heijke H., 1996. *Concepts and methodology for labour market forecasts by occupation and qualification in the context of a flexible labour market.* Cedefop: Thessaloniki.

Borghans L., de Grip A., Heijke H., 1998. *Beyond manpower planning: ROA's labour market model and its forecasts to 2002*. ROA.

Box G.E.P., Jenkins G.M., 1970. *Time series analysis forecasting and control*. Holden-Day: San Francisco, USA.

Bramham J., 1988. *Practical manpower planning*. IPD.

Bramham J., 1994. *Human resource planning*. *IPD*.

Brettell S., Jaffry S., 1990. A Generalised model of local economies – an information and modelling framework for local economic analysis. chap 8 in *Information Technology for social scientists*, Welford, R(ed.), European Research Press.

Briscoe G., Dutton P.A., Lindley R.M., 1980. Skilled Labour in Engineering and Construction. *In*: Lindley, R.M. *Economic Chance and Employment Policy*, MacMillan.

Briscoe G., Roberts C.J., 1977. *Structural breaks in employment functions*. The Manchester School, 1, 1-15.

Briscoe G., Wilson R.A., 1991. Explanations of the demand for labour in the United Kingdom Engineering sector. *Applied Economics* 23, 913-926.

Briscoe G., Wilson R.A., 1992. Forecasting economic activity rates. *International Journal of Forecasting*.

Briscoe G., Wilson R.A., 1993. *Employment forecasting in the construction industry*. Avebury Press.

Buckley P.J., Enderwick P., 1989. Manpower Management. *In*: Hillebrandt P.M. and Cannon J. *The Management of Construction Firms*, MacMillan.

Bureau of Labor Statistics, 1978. Labour Force Projections to 1990: Three Possible Paths. *Monthly Labour Review*, **101** (12), pp. 23-35.

Bureau of Labor Statistics, 1996. *Occupational Projections and Training Data, 1996 Edition*. U.S. Department of Labor, U.S. Government Printing Office, Washington D.C.

Bureau of Labor Statistics, 1997. *BLS Handbook of Methods*. BLS Publishing, USA.

Burford R.L., Katz J.L., 1977. *Input-Output Multipliers Without a Full Input-Output Matrix*. Proceedings of Business and Economics. American Statistical Association, Chicago. 453-58.

Burford R.L., Katz J.L., 1981. A method for the estimation of input-output type multipliers when no input-output model exists. *Journal of Regional Science*. **21**, 151-62.

Business Strategies Limited, 1996. *Occupations in the future: the UK and the Regions*. BSL: London.

Business Strategies Ltd, 1997. *A Review for the South West Regional Planning Conference*. BSL: London.

Business Strategies Ltd, 1998. *Future Skills Wales: A report addressing the future skill needs of Wales 1999-2007*. London: Business Strategies Ltd(BSL)/MORI.

Cairncross A., 1969. Economic Forecasting. *Economic Journal*, December.

Cambridge Econometrics in association with the Institute for Employment Research, 1994. *Merseyside Objective 1 Status: Economic analysis of EC indicative allocations*, a report for MELU, the Merseyside Task Force and Partners, April.

Castley R.J.Q., 1996a. The sectoral approach to the assessment of skill needs and training requirements. *International Journal of Manpower*. **17** (1), pp.56-68.

Castley R.J.Q., 1996b. Policy-focused approach to manpower planning. *International Journal of Manpower*. **17** (3), pp.15-24.

Chakravarty S.P., Jones D.R., MacKay R.R., 1981. *Redundancy at Shotton The Place of Steel*. Institute of Economic Research, University of North Wales, Bangor.

Clark J., Green A., Lee Bourke A., Wilson R., 1996. *Labour market information report*. Highlands and Islands Planning Partnership, Scotland.

Colclough C., 1990. How can the manpower planning debate be resolved? *In*: R. Amjad, C. Colclough, N. Garcia, M.- Hopkins, R. Infante and O. Rodgers, eds. *Quantitative Techniques in Employment Planning*. Geneva: International Labour Office.

Commissariat General du Plan, 1991. *Pour une prospective des metiers et des qualifications: Rapport du groupe de travail presidé par M. Jacques Freyssinet*. La Documentation Française, Paris.

Construction Industry Training Board, 1968. *A forecast of Manpower Demand for the Construction Industry in Scotland, 1969-1971*. 1 G.W. Lockhart and P.A. Abraham, Scottish Office, CITB.

Construction industry Training Board, 1968. *Northern Area Manpower Study*. CITB.

Construction Markets, 1978a. *Proposal for a Preliminary Study on Establishing the Regional Demand for Trained Labour in the Construction Industry*. CF/6.78, Construction Markets, 68 Queen's Gardens, London 3Ax.

Construction Markets, 1978b. *Regional Demand for Trained Labour in Construction Industry: Report I forecasts for each Economic Planning Region*. Construction Markets, 68 Queen's Gardens, London W2 3AX.

Daly A., Hitchens D., Wagner K., 1985. Productivity, machinery and skills in a sample of British and German manufacturing plants. *National Institute of Economic and Social Research* Review, February, pp. 48-61.

Daly A., Hitchens D.M.W.N., Wagner K., 1985. Productivity, machinery and skills in a sample of Britain and German manufacturing plants: Results of a pilot inquiry. In *National Institute Economic Review*, 111, February.

De Grip A., Marey P., 1999. Country report on labour market forecasting in the Netherlands. *In*: Strietska-Ilina O., ed. *Forecasting Education and Training Needs in Transition Economies: Lessons from the Western European Experience*. European Commission.

Dekker R., de Grip A., Heijke H., 1994. Indicating the Future Labour Market Prospects of Occupational Groups and Types of Education in the Netherlands. Chapter 3 in Heijke (1994), pp 55-86.

Department of Labor, 1963. *Manpower Report of the President, 1963*. Washington D.C., Government Printing Office.

Department of Labor, 1965. *Manpower Report of the President, 1965*. Washington D.C., Government Printing Office.

Dixon P.B., Parmenter B.R., Sutton J., Vincent D.P., 1982. *ORANI: A Multisectoral Model of the Australian Economy*. North Holland, Amsterdam.

Dostal W., 1999. Forecasting Metholody for Qualification and Training Needs in the Labour Market in Germany. *In*: Strietska-Ilina O., ed. *Forecasting education and training needs in transition economies: Lessons from the Western European experience*. European Commission.

Eijs P.v., 1994. *Manpower forecasting in the Western World: The current state of the art*. Maastricht: ROA-RM-1994/1E.

Elias D.P.B., Rigg M., eds., 1990. *The demand for graduates*. London: Policy Studies Institute.

Elias P., 1989. *Study of Trends in Part-time Employment 1971-89*. IER Project Report. Coventry: Institute for Employment Research, University of Warwick.

Elias P., Halstead K., Prandy K., 1993. *CASOC: Computer-Assisted Standard Occupational Coding*. London: HMSO.

Employment and Immigration, 1990. *'Job Futures: Occupational Outlooks, Volume 1, 1990 Edition.'* Ottawa: Nelson Canada in cooperation with Supply and Services Canada.

EMTA, 1998. *Adapt Manufacturing Labour Market Observatory*. Engineering and Marine Training Authority: Watford.

Engle R.F., Granger C., 1987. Co-integration and error correction: representation, estimation and testing. *Econometrica*, **55**, p.251-76.

Felstead A., Ashton D., Surchell B., Davies B., Green F., 1998. Skill trends in Britain: trajectories over the last decade. *In*: Coffield F., ed. *Research and policy implications of learning society*. Policy Press, Bristol.

Finegold D., Soskice D., 1986. The failure of British training: Analysis and prescription. *Oxford Review of Economic Policy*, **4** (3), pp. 21-52.

Focus Central London, 1998. *Economic Assessment*. London.

Focus Central London, 1998. *Skills for the future: Developing a skills strategy for central London*. London.

Frey L., 1997. a cura di, *Formazione e Lavoro*, Quaderni di Economia del Lavoro, n. 58, Angeli, Milano.

Giffard A., Guegnard C., 1999. Forecasting methodology for qualification and training needs in France. *In*: Strietska-Ilina O., ed. *Forecasting Education and Training Needs in Transition Economies: Lessons from the Western European Experience*. European Commission.

Gilbert C.L., 1986. Professor Hendry's econometric methodology. *Oxford Bulletin of Economics and Statistics*, 48, 283-307.

Gospel H.F., 1992. *Markets, firms and the management of labour in Modern Britain*, Cambridge.

Green F., 1998. *The value of skills. A paper for the Skills Task Force*. Mimeo. University of Kent: Canterbury.

Green F., Ashton D., Burchell B., Davies B., Felstead A., 1998. Are British workers getting more skilled? *Forthcoming in:* Borghans L., and de Grip A. *Skill utilisation and bumping down*. Edward Elgar.

Greenhalgh C.A., Mavratos G., Wilson R.A., 1990. *Panel data methods v seemingly unrelated regression estimates – A comparison using export volumes and prices*. Applied Economics.

Greenhalgh C.A., Suer B., Taylor P., Wilson R.A., 1990. *Trade performance and innovatory activity: A review*. Research Paper 90. Coventry: Institute for Employment Research, University of Warwick.

Greenhalgh C.A., Taylor P., Wilson R.A., 1990. *Innovation and export volumes and prices – a disaggregated study*. Centre for Economic Policy Research Discussion Paper 487. London: CEPR.

Gregg P., Manning A., 1997. Skill biased technical change, unemployment and wage inequality. *European Economic Review*, **41**, pp. 1172.1200.

Greig M.A., 1971. The regional income and employment multiplier effects of a pulp mill and paper mill. *Scottish Journal of Political Economy*. **18**, 31-48.

Harrigan F.J., 1982. The estimation of input-output type output multipliers when no input-output model exists: A comment. *Journal of Regional Science*. **22** (3), 375-81.

Harris R.I.D., 1995. Using cointegration analysis in econometric modelling. Prentice Hall.

Haskel J., Holt R., 1999. *Anticipating future skill needs: Can it be done? Does it need to be done?* Skills Task Force Research Paper 1, DfEE.

Haskel J., Martin C., 1996. Skill shortages, productivity growth and wage inflation. *In*: Booth A., Snower D. *Acquiring Skills*. CEPR and Cambridge University Press, Cambridge, UK.

Haskell J., Holt R., 1998. *Anticipating future skill needs: Can it be done? Does it need to be Done?* A paper for the Skills Task Force. Mimeo. Business Strategies Ltd.: London.

Healy M.C., Lehman M., McDaniel M.A., 1995. Age and voluntary turnover: A quantitative review. *Personnel Psychology*, 48, pp. 335-345.

Heckman J., 1998. What should be our human capital investment policy? *Fiscal Studies*, 19, 2, pp. 103-119.

Heijke H., ed., 1994. *Forecasting the labour market by occupation and education*, Kluwer Academic Publishers, Norwell (Mass.) (includes bibliography on UK, Germany and Netherlands).

Hendry C., Pettigrew A., 1992. Patterns of strategic change in the development of Human Resource Management, British *Journal of Management*, **3**, pp. 137-156.

Hendry D. (ed), 1986. 'Economic modelling with cointegrated variables'. *Oxford Bulletin of Economics and Statistics*, **48** (3), August.

Hendry D.F., 1985. *Empirical modelling in dynamic econometrics*. Oxford: Nuffield College.

Hirsh W., 1990. *Succession planning: Current practice and future issues*, Report 184, Institute of Manpower Studies.

Hopkins M.J., 1988. *Employment forecasting: The employment problem in industrial countries*. International Labour Organisation, Pinter Publishers: London.

Horridge J.M., Parmenter B.R., Pearson K.R., 1998. *ORANI-G: A general equilibrium model of the Australian economy*. Monash University, Australia.

HRDC Applied Research Branch, *Technical Document, T-96-4E, Human Resources Development* Canada: Quebec.

Hughes G., 1991. *Manpower forecasting: A review of methods & practice in some OECD countries.* The Economic and Social Research Institute, Dublin.

Hughes K., 1986. *Exports and Technology*. Cambridge: Cambridge University Press.

Human Resources Development Canada, 1998. *'Canadian Occupational Projection System: 1998 Macroeconomic Reference Scenario.'* HRDC Applied Research Branch, Technical Document, T-96-4E, Human Resources Development Canada: Quebec.

Hunter L., McGregor A., MacInnes J., Sproull A., 1993. The "Flexible Firm": Strategy and segmentation. *British Journal of Industrial Relations*, **31** (3) September, pp. 383-407.

Institute for Employment Research, 1997. *The Merseyside labour market: A supply side study*. Institute for Employment Research, University of Warwick, Coventry.

Jarvis V., Prais S.J., 1989. Two nations of shopkeepers: training for retailing in Britain and France. *National Institute Economic Review*, 128, May.

Johnson D.M., Le Fevre C., Lewis J., Wright P., 1979. *The Future of Bilston Steelworks – an Appraisal*. Joint Unit for Research on the Urban Environment.

Johnson G., 1987. *Strategic Change and the Management Process*, Blackwell.

Johnson S.G., Lindley R.M., Bourlakis C., 1988. *Modelling self-employment: A preliminary analysis.* IER Project Report. Coventry: Institute for Employment Research, University of Warwick.

Kao C., Lee H.T., 1998. Demand for industrial management manpower in Taiwan: Viewpoints of quantity and skill. *International Journal of Manpower*, **19** (8), pp.592-608.

Katz E., Ziderman A., 1990. Investment in general training: The role of information and labour mobility. *Economic Journal*, I 00, pp. 47-58.

Khoong C.M., 1996. An integrated system framework and analysis methodology for manpower planning. *International Journal of Manpower*, **17** (1), pp.26-46.

KPMG in association with CE, 1996. *Merseyside economic assessment KPMG*, Liverpool.

Lassnigg L., Meyer L., 1999. *Instruments, tools and policies to anticipate the effects of industrial change on employment and vocational qualifications: Report for Austria.* Study for the European Commission, Draft Report. Vienna: Austria.

Leicestershire TEC and County Council, 1994. *Annual Labour Market Assessment.*

Leicestershire TEC and County Council, 1997. *Leicestershire Economic Perspective.*

Lewis C.G., 1969. *Manpower planning: A bibliography*. English Universities Press: London.

Lindley R.M., 1994. A perspective on IER forecasting activities. Chapter 7 in Heijke (1994), pp 167-179.

Lindley R.M., ed., 1978. *Britain's Medium Term Employment Prospects.* Manpower Research Group, University of Warwick, Coventry.

Lindley R.M., ed., 1980. *Economic change and employment policy*. Macmillan: London.

Lindley R.M., Whitley J.D., 1983. *Review of the Economy and Employment*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., 1992 (eds), *Review of the Economy and Employment 1991: Occupational Studies*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., 1992 (eds), *Review of the Economy and Employment 1991: Regional Assessment*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., 1992 (eds), *Review of the Economy and Employment 1991: Regional Commentaries*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., 1997 (eds), *Review of the Economy and Employment 1996/97: Labour Market Assessment*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., eds., 1991. *Review of the economy and employment 1991: occupational assessment*, Institute for Employment Research, University of Warwick, Coventry.

Lindley R.M., Wilson R.A., Villagomez E., 1991. *Labour market prospects for the third age.* Paper prepared for Carnegie Inquiry into the 3rd Age, Seminar on Employment, Reading, December 3-4th. Institute for Employment Research, Coventry: University of Warwick.

London TEC Council, 1998. *Skills and sustainable development: Local competitiveness is a Global City.*

Malakellis M., Dixon P., 1994. The economic implications of an improvement in labour productivity: Comparative dynamic results from the MONASH model. *In:* Hargreaves C., ed. *A Comparison of the Economy-wide Models of Australia.* Australian Government Publishing Service.

Mason G., 1996. Graduate utilisation in British industry: The initial impact of mass higher education. *National Institute Economic Review*, May.

Mason G., 1998. The labour market for technical graduates: Are there mismatches between supply and demand? National Institute of Economic and Social Research, mimeo.

Mason G., Finegold D., 1997. Productivity, machinery and skills in the United States and Western European. *National Institute Economic Review*, October.

Mason G., van Ark B., Prais S.J., 1992. Vocational education and productivity in the Netherlands and Britain. *National Institute Economic Review*, 140, May.

Mason G., van Ark B., Wagner K., 1993. *Productivity, product quality and workforce skills: Food processing in four European countries.* National Institute of Economic and Social Research, mimeo.

Mason G., van Ark B., Wagner K., 1994. Productivity, product quality and workforce skills: food processing in four European countries. *National Institute Economic Review*, 147, February.

Mason G., van Ark B., Wagner K., 1996. Workforce skills, product quality and economic performance. *In*: Booth A., Snower D. *Acquiring skills*, CEPR and Cambridge University Press, Cambridge, UK.

Mason G., Wagner K., 1994. Innovation and the skill mix: chemicals and engineering in Britain and Germany. *National Institute Economic Review*, 148, May.

McBeath C., 1992. *The Handbook of Human Resource Planning*, Blackwell.

Meltz N.M., 1996. *Occupational forecasting in Canada: Back to the future.*

Metcalf H., 1995. *Future skill demand and supply. Trends, shortages and gluts*, Policy Studies Institute, London.

Micklewright J., Rajah N., Smith S., 1994. Labouring and learning; part-time work and full-time education. *National Institute Economic Review*, 148, May.

Mintzberg H., 1994. *The rise and fall of strategic planning*, Prentice Hall.

MORI and Business Strategies Ltd, 1998. *Future Skills Wales.* MORI/Business Strategies Ltd.: London.

Neale A.J., Wilson R.A., 1987. Average weekly hours of work in the United Kingdom, 1948-80: A disaggregated analysis. *In:* Bosworth D.L., Heathfield D.F., eds. *Working Below Capacity*. London: Macmillan.

Nickell S., 1984. An investigation of the determinants of manufacturing employment in the United Kingdom. *Review of Economic Studies*, 51, 529-557.

Nickell S., Nicolitsas D., 1997. *Human capital, investment and innovation: What are the connections? Labour Market Consequences of Technical and Structural Change.* Discussion Paper 20, September, Oxford and CEP, LSE.

Office of Population Censuses and Surveys, 1990. *Standard Occupational Classification*. London: HMSO.

Oulton N., 1996. "Workforce Skills and Export Competitiveness: an Anglo-German Comparison". *In:* Booth, A., Snower, D., eds. *Acquiring Skills*, CEPR and Cambridge University Press, Cambridge, UK.

Parnes H.S., 1962. *Forecasting Educational Needs for Economic and Social Development*, OECD, Paris.

Pascale R.T., 1991. *Managing on the Edge*, Penguin.

Paul J.J., 1985. Forecasting skilled-manpower needs in France: Concepts and methods. *In*: Youdi R.V., Hinchcliffe K., eds. *Forecasting Skilled Manpower Needs: The Experience of Eleven Countries.* Paris, UNESCO International Institute for Educational Planning.

Peters T., Waterman R.H., 1982. *In search of excellence*, Harper and Row.

Porter M.E., 1980. *Competitive strategy*, The Free Press.

Porter M.E., 1985. *Competitive Advantage*, The Free Press.

Prais S.J., 1987. Educating for productivity: comparisons of Japanese and English schooling and vocational preparation. *National Institute Economic Review*, 119, February.

Prais S.J., 1989. How Europe would see the new British initiative for standardising vocational qualifications. *National Institute Economic Review*, 116, May.

Prais S.J., 1989. Qualified manpower in engineering: Britain and other industrially advanced countries. *National Institute Economic Review*, 127, February.

Prais S.J., 1991. Vocational qualifications in Britain and Europe: theory and practice. *National Institute Economic Review*, 136, May.

Prais S.J., 1997. 'How did English Schools and Pupils *Really* Perform in the 1995 International Comparisons in Mathematics?' in *National Institute Economic Review*, July.

Prais S.J., Wagner K., 1983. Some practical aspects of human capital investment: training standards in five occupations in Britain and Germany. *National Institute Economic Review*, 123, February.

Prais S.J., Wagner K., 1985. Schooling standards in England and Germany: some summary comparisons bearing on economic performance. *National Institute Economic Review*, 112, May.

Prais S.J., Wagner K., 1991. Productivity and management: the training of foremen in Britain and Germany. *National Institute Economic Review*, 123, February.

Psacharopoulos G., 1991. Manpower planning to labour market analysis. *International Labour Review*, **130** (4).

Purcell J., 1989. Impact of Corporate Structure on Human Resource Management. *In*: Storey J., ed. *New Perspectives in Human Resource Management*, Routledge.

Purcell J., Ahlstrand B., 1994. Human Resource Management. In: *Multi Division Companies*, *OUP*.

Purcell K., Simm C., Wilson R., 1997. *Employer's Perceptions of the Adequacy of Further Education Provision in the South West*. Institute for Employment Research, University of Warwick, Coventry.

Rajan A., Pearson R., eds., 1986. *UK Occupation and Employment Trends to 1990: An employer-based study of the trends and their underlying causes*. London: Butterworths for the Institute of Manpower Studies.

Redding S., 1996. The Low-Skill, Low Quality Trap: Strategic Complementarities Between Human Capital and R&D. *Economic Journal*, **106** (435), March, pp. 458-70.

Reilly P., 1996. *Human Resource Planning: An Introduction*. Report 312. Institute for Employment Studies, University of Sussex, Brighton.

Rice P., 1991. The demand for post compulsory education in the UK and the effects of educational maintenance allowances. *Economica*, **54** (216), pp. 465-475.

Robertson D., Symons J., 1990. The occupational choice of British children. *Economic Journal*, **100** (402), pp. 828-841.

Royal Society of Arts, 1994. *Tomorrow's company*, *RSA*.

Schott K., 1984. *Simple economics of price and quality competition in international trade*. University College London, Department of Political Economy, Discussion Paper 84-02.

Schultze J., Reimers H., 1999. *The anticipation of labour demand occupational profile and training needs at local level: Approaches, methods and tools*. German National Report, Landesinstitut, Sozialforschungsstelle, Dortmund.

Smith A.R., Bartholomew D.J., 1988. Manpower planning in the United Kingdom: An historic review. *Journal of the Operational Research Society*, **39**, pp. 235-248.

Smithers A., 1993. *All our futures: Britain's educational revolution*. Channel 4 Television.

Snower D., 1998. *Causes of changing earnings inequality*. Paper presented at the symposium on Income Inequality: Issues and Policy Options, Federal Reserve Bank of Kansas City.

Steedman H., 1987. 'Vocational Training in Britain and France: office work', in *National Institute Economic Review*, 120, May.

Steedman H., 1988. 'Vocational Training in Britain and France: mechanical and electrical craftsmen', in *National Institute Economic Review*, 126, November.

Steedman H., 1990. Improvements in workforce qualifications: Britain and France 1979-88. *National Institute Economic Review*, 133, August.

Steedman H., Hawkins J., 1994. Shifting foundations; the impact of NVQs on youth training for the building trades. *National Institute Economic Review*, 149, August.

Steedman H., Mason G., Wagner K., 1991. Intermediate skills in the workplace: deployment, standards and supply in Britain, France and Germany. *National Institute Economic Review*, 136, May.

Steedman H., Wagner K., 1987. A second look at productivity, machinery and skills in Britain and Germany. *National Institute Economic Review*, 122, November.

Steedman H., Wagner K., 1989. Productivity, machinery and skills: clothing manufacture in Britain and Germany. *National Institute Economic Review*, 128, May.

Stevens M., 1996. Transferable Training and Poaching Externalities. *In*: Booth A., Snower D., (1996). *Acquiring skills*, CEPR and Cambridge University Press, Cambridge, UK.

Stock J.H., 1987. Asymptotic properties of least squares estimators of cointegrating vectors. *Econometrica*, **55** (5), 1035-56.

Strietska-Ilina O., ed., 1999. *Forecasting education and training needs in transition economies: Lessons from the Western European experience*. European Commission.

TEC National Council, 1998. *Skills for success: A report on the skill needs of business*. Research paper, September.

Tessaring M., 1994. *Manpower requirements by levels of qualification in West Germany until 2010*, IAB Labour Market Research Topics, Institute of Employment Research (IAB), Nürnberg.

Tessaring M., 1997. Forecasting sectors, occupational activities and qualifications in West Germany. A survey on research activities and recent findings. Cedefop Document, Thessaloniki.

Tessaring M., 1998. 'The future of work and skills – Visions, trends and forecasts.' *In:* Cedefop. *Vocational education and training – the European research field. Background report 1998*. Volume I, Luxembourg: EUR-OP.

Tyson S. (ed.), 1995. *Strategic prospects for HRM*, IPD.

Vajda S., 1978. *Mathematics of manpower planning*. John Wiley:Chichester.

Vergani A., Muscella F., 1999. *The anticipation of labour demand occupational profile and training needs at local level: Approaches, methods and tools*. National Report Italy, Leonardo Programme, CERES, Rome.

Wack P., 1985. Scenarios: shooting the rapids, *Harvard Business* Review, November-December, pp. 139-150.

Wack P., 1985. Scenarios: uncharted waters ahead, *Harvard Business Review*, September-October, pp. 73-89.

Willems E., de Grip A., 1993. Forecasting replacement demand by occupation and education. *International Journal of Forecasting* **9** (2), pp. 173-185.

Wilson R., 1993. *Employment prospects for Calderdale and Kirklees TEC*. Institute for Employment Research, University of Warwick, Coventry.

Wilson R., 1994. Modelling and forecasting the structure of employment in the United Kingdom. Chapter 1 in Heijke (1994), pp. 9-38.

Wilson R., 1996. *Future employment prospects for the highly qualified*. Institute for Employment Research, University of Warwick, Coventry.

Wilson R., 1997. *Employment prospects for the South West*. Institute for Employment Research, University of Warwick, Coventry.

Wilson R., Assefa A., Beard J., 1995. *A Local Economy Forecasting Model (LEFM) for the UK Economy*. Paper prepared for European Symposium on Labour Market Developments, University of Warwick, May.

Wilson R.A., 1995. Higher education in a learning society. *In:* Coffield F., ed. *Prospects in the Labour Market for the Highly Qualified*, School of Education, University of Durham, Durham, chapter 6.

Wilson R.A., 1998. *The anticipation of labour demand occupational profile and training needs at local level: Approaches, methods and tools*. UK National Report, Institute for Employment Research, University of Warwick, Coventry.

Wilson R.A., 1999. *The anticipation of labour demand occupational profile and training needs at local level: Approaches, methods and tools*. UK National Report, Institute for Employment Research, University of Warwick, Coventry.

Wilson R.A., Bosworth D.L., Taylor P.C., 1990. *Projecting the labour market for the highly qualified*. Project report for the Department of Employment, Institute for Employment Research, Coventry: University of Warwick.

Wilson R.A., Stilwell J.A., eds, 1992. *The National Health Service and the Labour Market*. Avebury: Aldershot.

Woodward V., 1975. A view of occupational employment in 1981. *Department of Employment Gazette*, July, pp. 619-622.

Youdi R.V., Hinchliffe K., eds., 1985. *Foreasting skilled manpower needs: The experience of eleven coutries*. Paris: UNESCO International Institute for Educational Planning.

Other languages[15]

Spanish

Afyde-Cebitri, 1993. *Estudio de las necesidades de formacion de la empresa española*, Madrid, Universidad Complutese.

Alonso A., Sánchez A., Marqués R., 1990. *Mercado de trabajo y políticas de empleo en la Comunidad Valenciana*, València, Generalitat de València.

Beneyto, 1991. La formación profesional como objeto del diálogo social, en *Revista de Treball* n°15, València, Generalitat Valenciana.

Bentolila S., Toharia L., 1991. *Estudios de economía del trabajo en España. III. El problema del paro*, Madrid, Ministerio de Trabajo y Seguridad Social.

Blanchard O., Jimeno J. (coord) (Grupo Centre For Economic Policy Research (CEPR) sobre el paro español) (1994) *El paro en España: ¿tiene solución?*, Madrid, Consejo Superior de Cámaras de Comercio, Industria y Navegación de España.

Blas F., 1990. La formación profesional en el marco de la LOGSE, en *Revista de Treball* n°14, València, Generalitat Valenciana.

Buesa M., Molero J., 1990. Política tecnológica y base industrial, *en* Velarde, J., García Delgado J.L. y Pedreño, A. *La industria española. Recuperación, estructura y mercado de trabajo*, Madrid, Colegio de Economistas de Madrid.

Cam, 1994. *Catálogo de la oferta formativa de la CAM*, Madrid, Comunidad Autónoma Madrid.

Caprile M., Harmes U., Martínez X., Salvat R., Sánchez M., 1995. *Políticas, Instrumentos y herramientas de anticipación de los cambios industriales en el empleo y las cualificaciones: el caso de España*, Fundación CIREM, Barcelona.

Caprile M., Homs O., Manzanares P., Prieto C., Toharia L., 1995. *Los determinantes del empleo en las regiones mediterráneas. El caso de España*, Fundación CIREM, Barcelona, CE DG-V.

Ceim, 1991. *Necesidades de formación en las empresas de la Comunidad de Madrid*, Madrid, CEIM-CEOE.

CES, 1994. *Memoria sobre la situación socioeconómica y laboral en España en 1993*, Madrid,

CES, 1995. *Memoria sobre la situación socioeconómica y laboral en España en 1994*, Madrid, CES.

Company F.J., Echeverría B., 1992. *Estructura de empleos y cualificaciones en el ámbito de la orientación escolar y profesional de jóvenes y adultos*. Cedefop, Berlín.

Consejo General DE Formación Profesional, 1993. *Programa nacional de formación profesional*, Madrid, MTSS.

De Pablo A., 1994. Hacia una formación profesional concertada, en *Sociología del Trabajo* n°22, Madrid, Ed Siglo XXI.

Echeverría B., 1993. *Formación Profesional. Guía para el seguimiento de su evolución*, Barcelona, Publicaciones Universitarias.

[15] The bibliographies in Spanish, Italian, German and French draw upon the work of an ADAPT project organised by CESOS in Rome. The author is grateful to various colleagues from these countries for provision of this bibliographical material.

Espina A., 1991. *Empleo, democracia y relaciones industriales en España*, Madrid, Ministerio de Trabajo y Seguridad Social.

Espina A., 1995. *Hacia una estrategia española de competitividad*, Madrid, Fundación Argentaria.

Farré R. et al., 1989. *Mapa escolar de Catalunya, Barcelona*, Generalitat de Catalunya, Departament d'Ensenyament.

Fernández F. Dir, 1994. *Necesidades de formación de las PYMES madrileñas*, Madrid, IMAF.

Foessa, 1994. *V Informe sociológico sobre la situación social en España*. Sociedad para todos en el año 2000, Madrid, Fundación FOESSA.

FORCEM, 1994. *Memoria de actividades 1993*, Madrid, FORCEM.

Fundación Iesa, 1991. *Prospectiva de las ocupaciones y la formación en la España de los noventa*, Madrid, MEH.

García S. Dir., 1989. *Formación profesional en el País Vasco, dos volúmenes*, Bilbao, CONFEBASK.

Homs O., Caprile M., 1994. *L'atur dels majors de 45 anys a Catalunya. Analisi i propostes*, Fundación CIREM, Barcelona, Cámara de Comercio, Industria y Navegación de Barcelona.

Homs O., Juan J., Vallvé C., 1994. *Oferta formativa i demanda professional del Baix Llobregat*, Fundación CIREM, Barcelona.

Homs O., Kruse W., Ordovás R., Pries, L., 1987. *Los cambios de cualificacion en las empresas españolas*, Madrid, Fundación IESA.

Homs O., Marin A., 1992. *Valoració de la formació en la inserció professional dels joves a Catalunya. La situació al Baix Llobregat*, Generalitat de Catalunya, Departament de Treball, Direcció General d'Ocupació, Barcelona.

Homs O., Riera C., Marín A., 1993. *La inserción profesional de los universitarios españoles*, Barcelona, Fundación CIREM, mimeografiado.

IEF, 1994. *Empleo, salarios y pensiones en las fuentes tributarias*, Madrid, Instituto de Estudios Fiscales.

IMAF, 1993. *Informe anual sobre formación y mercado de trabajo en la Comunidad de Madrid*, Madrid, CAM.

INEM, 1990. *Observatorio Permanente de las Ocupaciones. Criterios definitivos de prioridad de programación de acciones de FPO para 1991*, Madrid, MTSS.

INEM, 1990. *Observatorio Permanente de las Ocupaciones. Metodología del observatorio ocupacional*, Madrid, MTSS.

INEM, 1992. *Especialidades formativas agrupadas por familias profesionales*, Madrid, MTSS.

INEM, 1992. *Método de estudios sectoriales y configuración ocupacional de familias profesionales*, Madrid, MTSS.

INEM, 1993. *28 Estudios Sectoriales*, Madrid, MTSS.

Jiménez N., Muñoz V., 1991. *La adecuación del sistema de formación profesional a la política económica general, en Sáez Coord. Formación profesional y sistema productivo*, Fedea, Madrid.

Jimeno J., Toharia L., 1992. *El mercado de trabajo español en el proceso de convergencia hacia la Unión Económica y Monetaria Europea*, Papeles de Economía Española, nº 52-53.

Llinàs X., Solé P.F., 1988. *Ensenyament tècnic i sistema productiu a Catalunya*, Barcelona, ICE-UPC.

Llinàs X., Solé P.F., Torrens C., 1989. *Necesidades de formación continua en áreas técnicas y económicas en Cataluña*, Barcelona, ICT.

Llorente J.R., 1991. *La política de formación del Instituto nacional de Empleo, en Sáez Coord.* Formación profesional y sistema productivo, Madrid, Fedea.

Lopez E., Taguas D., 1990. Una visión general del Modelo de Investigación y Simulación de la Economía Española (MOISEES). Reproducido *en* Molinas, C., Sebastián, M. y Zabalza, A. (1991) *La economía española. Una perspectiva macroeconómica*, Antoni Bosch, editor e Instituto de Estudios Fiscales, Barcelona. Capítulo 13, pp. 533-582.

López Quero M. et al., 1993. *Sistemas y procedimientos de certificación de las cualificaciones en España* Cedefop, Berlín.

López Quero M. et al., 1994. *El sistema de formación profesional en España*, Cedefop, Berlín.

Manzanares J., 1994. Nueva formación profesional y transparencia de las cualificaciones, en *Cuadernos de Relaciones Laborales*, nº4, Madrid, Ed.Complutense.

Miguélez F., Lope A., Recio A., 1994. Trabajo y profesiones. El caso de Cataluña, en *Sociología del Trabajo* nº23, Madrid, Ed Siglo XXI.

Miguélez F., Prieto C., (coord), 1991. *Las relaciones laborales en España*, Madrid, Siglo XXI.

Miner, 1994. *Una política industrial para España*, Madrid, Ministerio de Industria y energía.

Ministerio Para Las Administarciones Públicas, 1993. *El Estado Autonómico*, 2 volúmenes, Madrid, MAP.

Morales J. et. al., 1994. *Necesidades de formación profesional en Andalucía*, Junta de Andalucía.

MTSS, 1987. *Encuesta para el diagnóstico del desarrollo de los recursos humanos en España*. Madrid, MTSS.

MTSS, 1989. La formación profesional en España. El Plan FIP 1985-1989. El Fondo Social Europeo 1990-1993, *Coyuntura Laboral*, Madrid, MTSS.

MTSS, 1991. Encuesta sobre requerimientos de empleo y formación profesional en las empresas españolas. *Coyuntura laboral* nº 34 (julio 1991), Madrid, MTSS.

MTSS, 1994. Encuesta sobre requerimientos de empleo y formación profesional en las empresas españolas. *Coyuntura laboral* nº 39, Madrid, MTSS.

Observatorio Regional Ocupacional, 1994, 1995. *Actividad empresarial y formación*, Madrid, IMAF.

Observatorio Regional Ocupacional, 1994. *Actividad empresarial y coyuntura económica*, ORO, Madrid.

Observatorio Regional Ocupacional, 1994. *Encuesta sobre actividad empresarial y formación*, Madrid, IMAF.

Ordovás R., 1994. Estudio sobre las acciones formativas del Plan Nacional de Formación e Inserción Profesional. Principales resultados, en *Revista de Economía y Sociología del Trabajo*, nº23-24, Madrid, MTSS.

Prieto S., 1994. Incertidumbres y riesgos de la reforma de la formación profesional, en *Cuadernos de Relaciones Laborales*, nº4, Madrid, Ed.Complutense.

Renter De CabO J.M., 1991. *Una perspectiva global, en Sáez Coord*. Formación profesional y sistema productivo, Madrid, Fedea.

Sáez F., Coord., 1990. *Prospectiva de empleo de la Universidad de Granada y estrategias de actuación*, Granada, Universidad de Granada.

Sáez F., Coord., 1990. *Requerimientos de empleo y formación en el área de influencia de la Universidad de Granada*, Granada, Universidad de Granada.

Sáez F., Coord., 1991. *Formación profesional y sistema productivo*, Madrid, Fedea.

Sáez F., Coord., 1991. *Requerimientos y estrategias: una valoración, en Sáez Coord*. Formación profesional y sistema productivo, Madrid, Fedea.

Sánchez M., 1994. La *cualificación de los recursos humanos en el sector agrario: su necesaria revitalización y su estado marginal*, Cáceres, Servicio de Publicaciones Universidad Extremadura.

Segura J., Duran F., Toharia L., Bentolila S., 1991. *Análisis de la contratación temporal en España*, Madrid, MTSS.

Solé P.F., Castells E., 1992. La Formació, a *Quaderns de Competitivitat* nº 14, Barcelona, Generalitat de Catalunya.

Solé P.F., Torrens C., 1989. *Necessitats de formació tecnològica a Catalunya*, Barcelona, Informe ICT.

Toharia L., 1994. *Empleo y paro, en V Informe sociológico sobre la situación social en España*. Sociedad para todos en el año 2000, Fundación FOESSA, Madrid.

UGT, Sectretaría Confederal de Formación, 1991. *Seminario Cualificaciones, formación profesional y mercado de trabajo*, (2 volúmenes mimeografiados), Madrid, Escuela Julián Besteiro.

1042

Italian

Accordo Interconfederale Confartigianato, 1993. Cna, Casa, Claai e Cgil-Cisl-Uil, *Politiche formative, contratti di formazione e lavoro e politiche del reimpiego*, 2/2.

Accordo nazionale Confindustria-CGIL-CISL-UIL, (1993). 20/1.

Agenzia per l'Impiego del Veneto, 1994. *Domanda di lavoro a breve nella provincia di Padova*, Rapporto di ricerca, polic., Venezia.

Ajello A.M., M.Cevoli, S.Meghnagi, 1992. *La competenza esperta*, Ediesse, Roma.

Ajello A.M., Meghnagi S., 1998. *La competenza tra flessibilità e specializzazione*, Angeli, Milano.

Ashton D., Green F., 1996. *Education, Training and the Global Economy*, Edwar Elgar, Cheltenham (UK).

Bairati A., Russo G., Schiavone N., 1990. *La domanda di formazione delle imprese venete*, Federazione degli Industriali del Veneto, Rapporto di ricerca, Vicenza.

Boldizzoni D., 1984. Analisi dei bisogni di formazione: problemi concettuali e di metodo, *in* Boldizzoni D. (a cura di), *Oltre la formazione apparente*, Il Sole24 Ore, Milano.

Bresciani P.G., 1989. La professionalità: definizione, modelli di analisi e problemi emergenti, *Osservatorio Economico*, 1.

Bresciani P.G., 1997. *Le competenze: approcci e modelli di intervento*, Professionalità (Dossier), 38.

Bresciani P.G., Gatti M., Tagliaferro C., Taronna P., 1992. Lineamenti per un modello di rilevazione dei fabbisogni professionali a livello locale, *Osservatorio Isfol*, 6.

Brivio E., 1994. La questione dell'analisi dei fabbisogni formativi in azienda, *Professionalità*, 21, pp.19-27.

Brivio E., 1994. Problemi metodologici nell'analisi dei fabbisogni formativi, *Professionalità*, 22, pp.39-58.

Bruni M., 1997. *Il fabbisogno formativo: analisi tipologica e metodologie di rilevazione*, Paper presentato al workshop sul tema Politiche del lavoro e della formazione, CNR, Milano, novembre.

Bruscaglioni M., *Un modello generale per l'analisi delle professioni ed del loro sviluppo*, AISL, s.i.d.

C.f.p. Regione Lombardia-Crema, 1994. *Azienda e bisogni di formazione. Una indagine conoscitiva nel territorio cremasco*, dattil., Crema, marzo.

Calvo R., 1997. *Il dizionario di Babele. Classificare le professioni*, Professionalità, 37, (contiene bibliografia).

Cedefop (Rapports nationaux: F. Muscella, L. Ribolzi, U. Vairetti), 1995. *Le role de l'entreprice dans la production des qualifications: effets formateurs de l'organisation du travail*, Berlin.

Censis, (1997). *Modelli per la formazione*, n.1/2, gennaio-febbraio.

Centro per le Transizioni al lavoro e nel lavoro Forlì, 1997. I.S.D.E.-C.N.R. Milano, Dipartimento di Scienze Economiche Università degli Studi di Bologna, *Mercati locali del lavoro aperti e fabbisogni formativi delle imprese: risultati di un'indagine campionaria nella provincia di Forlì-Cesena*, Forlì-Cesena, marzo.

Centro Studi Assolombarda-Spin, 1996. *Rilevazione dei fabbisogni formativi dell'industria delle provincia di Milano*, polic., Milano, maggio.

Cestec-Unione Industriali Provincia di Varese, *Le attività e le esigenze di formazione delle imprese industriali varesine*, Rapporto di ricerca, polic., Varese, s.i.d.

Confindustria-Federazione dell'Industria del Veneto, 1993. *La domanda di formazione dell'industria del Veneto (seconda rilevazione)*, Rapporto di ricerca.

Convenzione-quadro tra M.L.P.S., 1996. *Regioni, Parti Sociali per la realizzazione di un sistema di rilevazione permanente e aggiornabile dei fabbisogni formativi del sistema produttivo*, Roma.

Decreto-legge 20 maggio 1993, n.148, coordinato con legge di conversione 19 luglio 1993, n.236, recante Interventi urgenti a sostegno dell'occupazione.

ErgOnLine, 1997. *Tabella professioni ErgOnLine: rielaborazione di tabella ministeriale*, polic., dicembre.

Federazione dell'Industria del Veneto (a cura di A.Bairati, N.Schiavone), 1994. *La domanda di formazione nell'industria del Veneto*, Rapporto di ricerca.

Fondazione per la formazione professionale turistica-Regione Valle D'Aosta, 1994. *Indagine sulle esigenze formative a livello manageriale nel settore alberghiero*, Rapporto di ricerca, Chatillon, dicembre.

Fondo Bilaterale per la formazione professionale, Confartigianato, Cna, Casa, Claai, Cgil-Cisl-Uil, 1996. *Indagine nazionale sui bisogni formativi nell'artigianato. Progetto di ricerca*, dattil., Roma.

Frey L., 1997. a cura di, *Formazione e Lavoro*, Quaderni di Economia del Lavoro, n. 58, F. Angeli, Milano.

Frey L., 1998. *Mercati del lavoro locale e sviluppo umano*, Quaderni di Economia del Lavoro, n. 63, F. Angeli, Milano.

Gagliardi C., Martini M., Ribolzi L., 1997. *Indicazioni per la formazione emergenti dal sistema informativo Excelsior sulla domanda di lavoro*, Paper presentato al workshop sul tema "Politiche del lavoro e della formazione", CNR, Milano, novembre.

Gatti M., Tagliaferro C., Taronna P., 1995. *Analisi dei fabbisogni e programmazione formativa*, Professionalità, 25, pp.17-24.

Ghiotto G., 1995. *Il concetto di competenza*, lucidi Studio Meta e Ass., Bologna.

Gruppo Giovani Imprenditori Associazione Cotoniera, Liniera e delle fibre affini, (1996). *Indagine sui fabbisogni formativi del settore*, polic., Roma.

Isfol (a cura di M.Gatti) 1993. *Una proposta sperimentale per la rilevazione dei fabbisogni professionali a livello locale*, Rapporto Isfol 1993, Angeli, Milano.

Isfol (a cura di M.Gatti, C.Tagliaferro) 1994. *L'analisi dei fabbisogni. Aspetti problematici e tendenze*, Rapporto Isfol 1994, Angeli, Milano.

Isfol (a cura di M.Gatti, C.Tagliaferro, P.Taronna) 1991. *Modello di rilevazione delle esigenze formative e professionali su base locale*, Rapporto Isfol 1991, Angeli, Milano.

Isfol (Area ricerche sulle professioni) 1997. *Analisi dei fabbisogni (Schema di sintesi di alcuni dei modelli più significativi)*, dattil., Roma.

Isfol, 1986. *Analisi del lavoro per fasce di professionalità*, dattil., Roma.

Isfol, 1987. *Repertorio delle professioni*, Roma.

Isfol, 1988. *Lavoro e professionalità*, Angeli, Milano.

Isfol, 1989. *Fasce di professionalità e sistema formativo*, Angeli, Milano.

Isfol, 1990. *Valutare l'investimento in formazione*, Angeli, Milano.

Isfol, 1991. *Qualifiche e formazione. Quattro studi di caso*, Angeli, Milano.

Isfol, 1992. *Glossario di didattica della formazione*, Angeli, Milano.

Isfol, 1995. *Rapporto 1995*, Angeli, Milano.

Isfol, 1996. *Rapporto 1996*, Angeli, Milano, pp.181-218.

Isfol, 1997. *Rapporto 1997*, Angeli, Milano.

Isfol, 1997b. *Progetto per la realizzazione di un sistema di standard formativi. Unità capitalizzabili e crediti*, Documento di lavoro, dattil., Roma, marzo.

Istat, 1990. *Classificazione delle professioni. Metodi e norme*, serie C, n.12, edizione 1991, Roma.

Lauro C., 1996. *Ricerca sul fabbisogno formativo della piccola impresa napoletana*, Rapporto di ricerca, Università di Napoli.

Lipari D., 1994. *Organizzazione e competenze professionali*, Scuola Democratica, 1-2.

Meghnagi S., 1992. *Conoscenza e competenza*, Loescher, Torino.

Melocchi L., Maggi B., 1975. *Formazione: analisi dei bisogni e verifica dei risultati*, Sviluppo e organizzazione, 27.

Milanaccio A., 1982. Le professioni: proposta per una classificazione differente, *Quaderni di Sociologia*, 1.

Ministero del Lavoro e della P.S. (Gruppo di lavoro sulle qualifiche), 1998. *L'adozione della classificazione delle professioni Istat 1991*, documento finale, polic., Roma, giugno.

Ministero del Lavoro e della P.S., 1988. *Raccolta dei modelli per le procedure dei servizi dell'impiego*, Prontuario codici, Roma.

Muscella F., 1997. *Il sistema della Formazione Professionale e la sfida sui mercati locali*, International Training Centre of the ILO, Torino.

Nicoli D., *Analisi dei fabbisogni formativi*, dattil. s.i.d.

Nicoli D., *Domanda e offerta formativa: riconsiderazione e riqualificazione del ruolo degli operatori pubblici e privati*, Formazione e Lavoro, n.146.

Promolavoro-Regione Piemonte, 1998. *Materiali informativi strutturati per la programmazione di interventi di formazione, sviluppo e valorizzazione delle competenze individuali*, polic., Novara.

Protocollo nazionale Governo-Confindustria-CGIL-CISL-UIL, 23/7/1993.

Provincia Autonoma di Trento-Università degli Studi di Trento, 1995. *Un modello per il monitoraggio dei mutamenti professionali: ipotesi di approcci, strumenti e metodologie per il decisore provinciale*, polic., Trento.

Provincia di Bergamo-Unione degli Industriali della Provincia di Bergamo, 1997. *I fabbisogni formativi dell'industria bergamasca*, Rapporto di ricerca, Bergamo.

Provincia di Lodi-Irer Lombardia, 1998. *Rilevazione ed analisi della domanda di lavoro in provincia di Lodi*, Rapporto di ricerca, Lodi.

Provincia di Milano-Irer Lombardia, 1998. *Rilevazione ed analisi della domanda di lavoro e di profili professionali in alcune subaree della provincia di Milano*, Rapporto di ricerca, Milano.

Provincia di Novara-CCIAA Novara -Promolavoro, Novara 2000, 1997. *La formazione professionale e lo sviluppo economico del novarese. I sistemi di rilevazione territoriale dei fabbisogni formativi, materiali per Convegno*, Novara, dicembre.

Provincia di Novara-Promolavoro, 1997. *Progetto di rilevazione dei fabbisogni formativi nella provincia di Novara*, Rapporto intermedio di ricerca, Novara, polic., dicembre.

Provincia di Pavia-Assessorato Programmazione e Risorse (a cura di A.Vergani), 1998. *Monitoraggio della domanda di lavoro e di profili professionali*, Rapporto di ricerca, polic., Pavia, febbraio.

Provincia di Sondrio, 1994. *Analisi qualitativa dei fabbisogni professionali e di formazione in Provincia di Sondrio*, polic., Sondrio, maggio.

Provincia di Torino-Assessorato alla Formazione Professionale, 1998. *Analisi e rilevazione dei fabbisogni formativi: edilizia*, polic., Torino.

Provincia di Torino-Assessorato alla Formazione Professionale, 1998. *Analisi e rilevazione dei fabbisogni formativi: servizi socio-assistenziali*, polic., Torino.

Provincia di Torino-Assessorato alla Formazione Professionale, 1997. *Rilevazione e analisi dei fabbisogni occupazionali e formativi nella Provincia di Torino*. Documento programmatico, polic., Torino.

Provincia di Varese-Assessorato Economia, 1996. Lavoro e Formazione Professionale (a cura di Gruppo Clas), *La domanda di formazione professionale delle imprese artigiane nella provincia di Varese*, Milano-Varese.

Provincia di Varese-Assessorato, 1996. Lavoro Formazione Professionale, Commercio, Industria e Artigianato (a cura di Gruppo Clas), *Le esigenze di formazione connesse alla attivazione dell'aeroporto di Malpensa 2000*, Milano-Varese.

Quaglino G.P., Carrozzi G.P., 1981. *Il processo di formazione*, Angeli, Milano.

Rappelli F., 1996. *Anticipare i bisogni di formazione*, Professionalità, 35, pp.15-22.

Ratti F., 1998. *La sfida delle competenze*, Sviluppo e Organizzazione.

Regione Autonoma Valle d'Aosta-OML, 1998. *Studio finalizzato a definire profili professionali carenti sul mercato locale nei comparti dell'artigianato, agricoltura e servizi nei comuni di media e alta montagna relativi all'obiettivo 5b*, Rapporto di ricerca, Aosta, febbraio.

Regione Autonoma Valledaosta, 1994. *Servizio Studi Programmi e Progetti, Agenzia del lavoro (a cura di G.Ghiotto), Indagine finalizzata ad individuare le esigenze formative per figure professionali medio-alte nel settore industriale, comparto meccanico*, Aosta.

Regione Autonoma Valledaosta, 1996. Agenzia del lavoro (a cura di M.Bruni, D.Ceccarelli), *Occupazione, professioni e fabbisogni* formativi, Rapporto di ricerca (in: Obiettivo Lavoro, 5, 1996), Aosta.

Regione Emilia-Romagna-Unione Europea-Azienda Agraria Sperimentale V.Tadini, 1995. *Osservatorio sui fabbisogni formativi del settore agroalimentare*, Rapporto di ricerca, Piacenza.

Regione Emilia-Romagna-Unione Europea-Cofimp, 1997. *Analisi dei fabbisogni formativi nel settore dell'informatica*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Confindustria, 1994-95. *Sistema di rilevazione sui fabbisogni formativi delle imprese dell'Emilia-Romagna*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ecap, 1995. *Ricerca ed analisi dei fabbisogni di professionalità nel settore della qualità dei servizi e dell'evoluzione dei fabbisogni formativi aziendali*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ecap, 1997. *Analisi dei bisogni formativi delle organizzazioni di volontariato. Province di Forlì-Cesena e Ravenna*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ecap, 1997. *Analisi dei fabbisogni formativi nel settore meccatronico e raccorderia nella provincia di Piacenza*, Rapporto di ricerca, Piacenza.

Regione Emilia-Romagna-Unione Europea-Ecap, 1997. *La formazione nel settore della comunicazione: ricerca sui fabbisogni formativi delle aziende del settore e attività di supporto alla programmazione*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ecipar, 1997. *Ricerca sulla consistenza e sui fabbisogni formativi delle professioni sanitarie non mediche*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ial Emilia-Romagna, 1995. *Indagine sulle caratteristiche quantitative e qualitative della domanda e dell'offerta di lavoro nel settore turistico alberghiero per la definizione dei fabbisogni formativi*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-Ial Emilia-Romagna, 1997. *Ricerca ed analisi dei fabbisogni formativi nel comparto della saldatura*, Rapporto di ricerca, Bologna.

Regione Emilia-Romagna-Unione Europea-IFOA, 1997. *Evoluzione tecnologica e fabbisogni formativi del settore agroalimentare in Emilia-Romagna*, Rapporto di ricerca, Reggio Emilia.

Regione Emilia-Romagna-Unione Europea-Nuovo Cescot, 1995. *Ricerca sul fabbisogno formativo degli agenti e rappresentanti di commercio in Emilia-Romagna*, Rapporto di ricerca, Bologna.

Regione Lombardia-Irer-Datamedia, 1996. *I rapporti tra le imprese lombarde e la Pubblica Amministrazione. Il quadro delle relazioni e delle aspettative. Formazione, lavoro, giovani: la mappatura della figure professionali e della corrispondente formazione richiesta dalle imprese lombarde*, Milano, aprile.

Regione Piemonte-Texilia, 1996. *Messa a punto di una rete di monitoraggio dei fabbisogni formativi delle imprese del Piemonte*, Rapporto di sintesi dei risultati, polic., Torino, febbraio.

Schiavone N., Bairati A., 1997. *La domanda di formazione del sistema produttivo*, Professionalità, 38.

Schiavone N., Bairati A., 1997. *La domanda di formazione del sistema produttivo*, Professionalità, 38, pp.73-78.

Serino G., 1995. *Ruoli lavorativi, figure professionali, aree professionali*, lucidi RSO, Milano.

Sirpel (Regione Lombardia-OTML), 1992. *Rapporto generale relativo alla prima indagine intersettoriale sulla domanda di lavoro nel settore privato dell'economia lombarda*, Rapporto di ricerca, mimeo, Milano, dicembre.

Sirpel (Regione Lombardia-OTML), 1994. *Indagine intersettoriale sulla domanda di lavoro nel settore privato dell'economia lombarda*. Secondo rapporto: la domanda di lavoro al 1994, Rapporto di ricerca, mimeo, Milano, febbraio.

Sirpel (Regione Lombardia-OTML), 1995. *Indagine sulla domanda di lavoro nel settore manifatturiero nel periodo 1994-95*, Rapporto di ricerca, mimeo, Milano, luglio.

Tabella professioni Ergonline, 1997. *Rielaborazione di tabella ministeriale*, dicembre.

Tezza E., 1991. *La domanda di lavoro nel settore secondario*, Rapporto di ricerca, Regione Veneto, Venezia.

Tezza E., 1993. *Il fabbisogno formativo delle imprese orafe vicentine*, Rapporto di ricerca, Sam, Vicenza.

Tezza E., 1993. *La domanda di qualifiche in Alto Adige*, Rapporto di ricerca, Bolzano.

Tezza E., 1993. La rilevazione del fabbisogno formativo: verso un approccio quali-quantitativo, *Osservatorio Isfol*, 6.

Tezza E., 1994. Fabbisogno formativo e domanda di formazione, *Professionalità*, 23, pp.31-36.

Tezza E., 1995. La domanda di formazione. Uno schema metodologico, *Professionalità*, 29, pp.15-23.

Tezza E., 1996. *Fabbisogno formativo, domanda di lavoro e domanda di formazione: alcuni indicatori operativi*, Osservatorio Isfol.

Tezza E., 1997. *Spunti introduttivi allo studio delle competenze*, Paper prodotto nell'ambito del progetto Adapt-ESA, ILO, Torino, febbraio, polic.

Tezza E., 1997. *Working paper per la discussione introduttiva alla ricerca sull'anticipazione dei bisogni formativi locali*, Paper prodotto nell'ambito del progetto Adapt-ESA, ILO, Torino, febbraio, polic.

Unioncamere Lombardia-Regione Lombardia, 1997. *Excelsior Lombardia*, polic., Milano, ottobre.

Unioncamere nazionale-Ministero del Lavoro e della P.S., *Progetto Excelsior. Sistema Informativo per l'occupazione e la formazione*, polic., s.i.d.

Unioncamere nazionale-Ministero del Lavoro e della Previdenza Sociale, 1997. *Sistema informativo Excelsior sulla domanda di lavoro*, Rapporto di indagine, Roma.

Unioncamere nazionale-Ministero del Lavoro e della Previdenza Sociale, 1998. *Sistema informativo Excelsior sulla domanda di lavoro*, Rapporto di indagine (provv.), Roma.

Unioncamere Piemonte-Federpiemonte, 1987. *Sperimentazione di un metodo di indagine sulle professioni in Piemonte*, Rapporto di ricerca, Torino.

Unioncamere Piemonte-Federpiemonte, *Formazione professionale in Piemonte: alcune sperimentazioni previsionali*, Rapporto di ricerca, Torino, s.i.d.

Vergani A., 1997. *Strumenti per l'analisi della domanda/offerta di lavoro e la valutazione delle competenze*, Intervento al convegno Donne e politiche attive del lavoro, Provincia di Milano, Milano, dattil.

Zoccatelli M., Investimenti in formazione: l'impostazione metodologica dell'indagine, dattil., in Provincia di Novara et al., cit.

German

Alt C., Holz H., Scholz D., 1995. *Entwicklung und Umsetzung regionaler Qualifizierungsstrategien*. Reader on the workshop held on 21. February 1994 in Berlin. (BIBB – Federal Institute for Vocational Training). Bielefeld: Bertelsmann.

Alt C., Sauter E., Tillmann H., 1994. *Berufliche Weiterbildung in Deutschland. Strukturen und Entwicklungen*. (Report according to Article 11 (2) of the EC-Council's decision of 29. May 1990 on the FORCE action programme. (BIBB – Federal Institute for Vocational Training). Bielefeld: Bertelsmann.

Arnold R., Lipsmeier A., ed., 1995. *Handbuch der Berufsbildung*. Opladen: Leske + Budrich.

Bundesanstalt für Arbeit, 1995. *Annual Report 1994*. Nürnberg.

Bundesanstalt für Arbeit, ed., 1993. *ABZ-Handbuch. Ausbildung, Beschäftigung, Zukunftsaspekte. Anerkannte Ausbildungsberufe in regionaler Gliederung*. Edition Dortmund Employment Services 1993.

Bundesinstitut für Berufsbildung, Der Generalsekretär (ed.) 1992. *Modellversuche in der außerschulischen Berufsbildung*. Berlin.

Bundesinstitut für Berufsbildung, Der Generalsekretär, ed., 1994. *Ausbildungsordnungen und wie sie entstehen...* . Berlin: BIBB – Federal Institute for Vocational Training.

Bundesministerium für Bildung und Wissenschaft, ed., 1993. *Berichtssystem Weiterbildung*.

Bundesministerium für Wirtschaft, ed., 1995a. *Jahreswirtschaftsbericht 1995 der Bundesregierung*. Bonn.

Bundesministerium für Wirtschaft, ed., 1995b. *Projektion der gesamtwirtschaftlichen Entwicklung in der Bundesrepublik Deutschland bis zum Jahre 1999*. BMWI-Dokumentation No. 376. Bonn.

1047

Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung, 1993. *Beschäftigungsperspektiven der Absolventen des Bildungswesens*. 3. Draft. (unpublished). Bonn.

Buttler, F. et al., ed., 1990. Arbeitslandschaft bis 2010. Schwerpunktheft. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* 1.

Deutsches Institut für Wirtschaftsforschung, 1995. *Die Lage der Weltwirtschaft und der deutschen Wirtschaft im Frühjahr 1995*. Beurteilung der Wirtschaftslage durch die Mitglieder der Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute e.V., Berlin. In: DIW-Wochenbericht 15-16/95. Berlin (further Joint Report twice per year in the respective numbers of the DIW weekly report).

Döpke J., Langfeldt E., 1995. *Zur Qualität von Konjunkturprognosen für Westdeutschland 1976-1994*. Kieler Diskussionsbeiträge Nr. 247. Kiel: Institut für Weltwirtschaft.

Greinert W.-D., 1993. *Das „deutsche System" der Berufsausbildung: Geschichte, Organisation, Perspektiven*. Baden-Baden: NomosWUB: 20 QHU 2327.

Infratest Sozialforschung et al. (verschiedene Jahrgänge). *Arbeitsmarkt-Monitor für die neuen Bundesländer*. 148.x. Nürnberg.

Klauder W., 1990a. Auswirkungen der politischen und wirtschaftlichen Entwicklung seit 1989 auf die Arbeitsmarktperspektiven. Ein quantitatives Szenario bis 2000 unter veränderten Rahmenbedingungen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung* 1, pp. 22-33.

Krelle W., 1991. Ökonometrische Prognosemodelle – Erfahrungen und mögliche Weiterentwicklungen. *RWI-Mitteilungen* 1991, pp. 1-29.

Kruse W., Kühnlein G., Paul-Kohlhoff A., Strauß J., 1989. *Berufsausbildung im Wandel – Neue Aufgaben für die Berufsschule*. Frankfurt: Max-Traeger Stiftung.

Kruse W., Paul-Kohlhoff A., 1993. Zur Zukunft des "Dualen Systems" – Eine Skizze offener Fragen. *Gewerkschaftliche Monatshefte*, pp. 702-710.

Memorandum / Arbeitsgruppe Alternative Wirtschaftspolitik, 1995. *Memorandum '95. Stärkung des Sozialstaates – Wirtschaftspolitik für Arbeit und ökologischen Umbau*. Köln: PapyRossa.

Memorandum 1986. Sonderheft Nr. 2, Februar (1986). *10 Jahre Erfahrungen Arbeitsgruppe Alternative Wirtschaftspolitik*.

Mertens D., 1988. (ed.). *Konzepte der Arbeitsmarkt- und Berufsforschung. Eine Forschungsinventur des IAB*. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 70. 3., revised edition. Institut für Arbeitsmarkt- und Berufsforschung, Nürnberg.

Meyer B., Ewerhart G., 1994. *Wachstum ohne mehr Beschäftigung? Eine Langfristprognose mit einem disaggregierten ökonometrischen Modell für Deutschland*. Beiträge des Instituts für Empirische Wirtschaftsforschung. Osnabrück.

Parmentier K. et al., 1993. *Berufs- und Erwerbsstrukturen West- und Ostdeutschlands im Vergleich. Ergebnisse aus der BIBB/IAB-Erhebung 1991/92*. Beiträge zur Arbeitsmarkt- und Berufsforschung 176. Institut für Arbeitsmarkt und Berufsforschung, Nürnberg.

Paul-Kohlhoff A., 1986. Chancen und Begrenzungen einzelbetrieblicher Ausbildungsreform – am Beispiel eine Modellversuches. *In:* Fricke, Werner et al. (ed.) 1986: *Jahrbuch Arbeit und Technik 1985*. Bonn: Verlag Neue Gesellschaft, pp. 207-217.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, 1995. *Den Aufschwung sichern – Arbeitsplätze schaffen*. Jahresgutachten 1994/95. Stuttgart: Metzler-Poeschel.

Statistisches Bundesamt (laufende Jahrgänge): series 1, edition 4.1.2: *Beruf, Ausbildung und Arbeitsbedingungen der Erwerbstätigen (Ergebnisse des Mikrozensus)*. Wiesbaden.

Stooß F., Reinberg A., Tessaring M., 1993 (July). *Instrumente im Bereich der Analyse und Antizipierung der Qualifikationen in der Bundesrepublik Deutschland*. Document for the preparation of the 1993 European Forum in Brussels. Institut für Arbeitsmarkt- und Berufsforschung, Nürnberg.

Tessaring M., 1988. Die Bilanzierung von Angebot und Nachfrage an hochqualifizierten Arbeitskräften. *In:* Mertens, D., ed. *Konzepte der Arbeitsmarkt und Berufsforschung. Eine Forschungsinventur des IAB*. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 70. 3. revised edition. Institut für Arbeitsmarkt- und Berufsforschung, Nürnberg, pp. 795-809.

1048

Tessaring M., 1988d. *Arbeitsmarkt für Akademiker. Gestern – heute – morgen.* Institut für Arbeitsmarkt- und Berufsforschung. Materialien aus der Arbeitsmarkt- und Berufsforschung No. 5, Nürnberg.

Tessaring M., Blien U., Fischer G., Hofmann I., Reinberg A., 1990. *Bildung und Beschäftigung im Wandel. Die Bildungsgesamtrechnung des IAB.* Institut für Arbeitsmarkt- und Berufsforschung. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 126, Nürnberg:

Tessaring M., Reinberg A., Fischer G., 1993. *Bildung, Beschäftigung und Qualifikation in den alten Bundesländern. In:* Fischer G. et al., eds. Bestand und Bewegung im Bildungs- und Beschäftigungssystem der Bundesrepublik Deutschland. Institut für Arbeitsmarkt- und Berufsforschung. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 170, Nürnberg.

Weiß T., 1995. Computergestützte Modelle in der staatlichen Planung am Beispiel der Praxis des Bundesministeriums für Arbeit. *RWI-Mitteilungen*, 2, pp. 93-112.

Weißhuhn G., Wahse J., König A., 1994. *Arbeitskräftebedarf in Deutschland bis 2010. Arbeitskräfteeinsatz 1978-1990 und Szenarien bis 2010 für die alten und neuen Bundesländer.* Bundesministerium für Bildung und Wissenschaft. Bad Honnef: Bock.

Weiterbildung, 1993. *Integrierter Gesamtbericht zur Weiterbildungssituation in den alten und neuen Bundesländern.* (Schriftenreihe Studien zu Bildung und Wissenschaft). Bad Honnef: Bock.

WSI Projektgruppe Prognose, 1995. Die wirtschaftliche Entwicklung in Deutschland in den Jahren 1995/1996. In: *WSI-Mitteilungen* 11, pp. 675-689.

1049

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This is the background publication of the second report on vocational education and training (VET) research in Europe published by Cedefop in 2001. It contains a number of contributions on current research in the framework of generating and using skills and competences. The basic theories, methodologies and results are presented and the main implications for future research, policy and practice are discussed within each contribution.

Some key issues addressed include:

- steering VET systems, funding and the changing roles of VET professionals;
- learning and training within the context of lifelong and lifewide learning;
- training, employment and development of human resources from a company perspective;
- labour market dynamics and their impact on skills and competences;
- individual performance, social exclusion and transition from education/training to work;
- VET research in selected non-EU countries.

We hope that this publication coupled with the complementary synthesis report, will enhance understanding of research undertaken within Europe and contribute to closer cooperation between researchers and decision makers at all levels.

Pascaline Descy, Manfred Tessaring

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Second report on vocational training research in Europe 2000: background report

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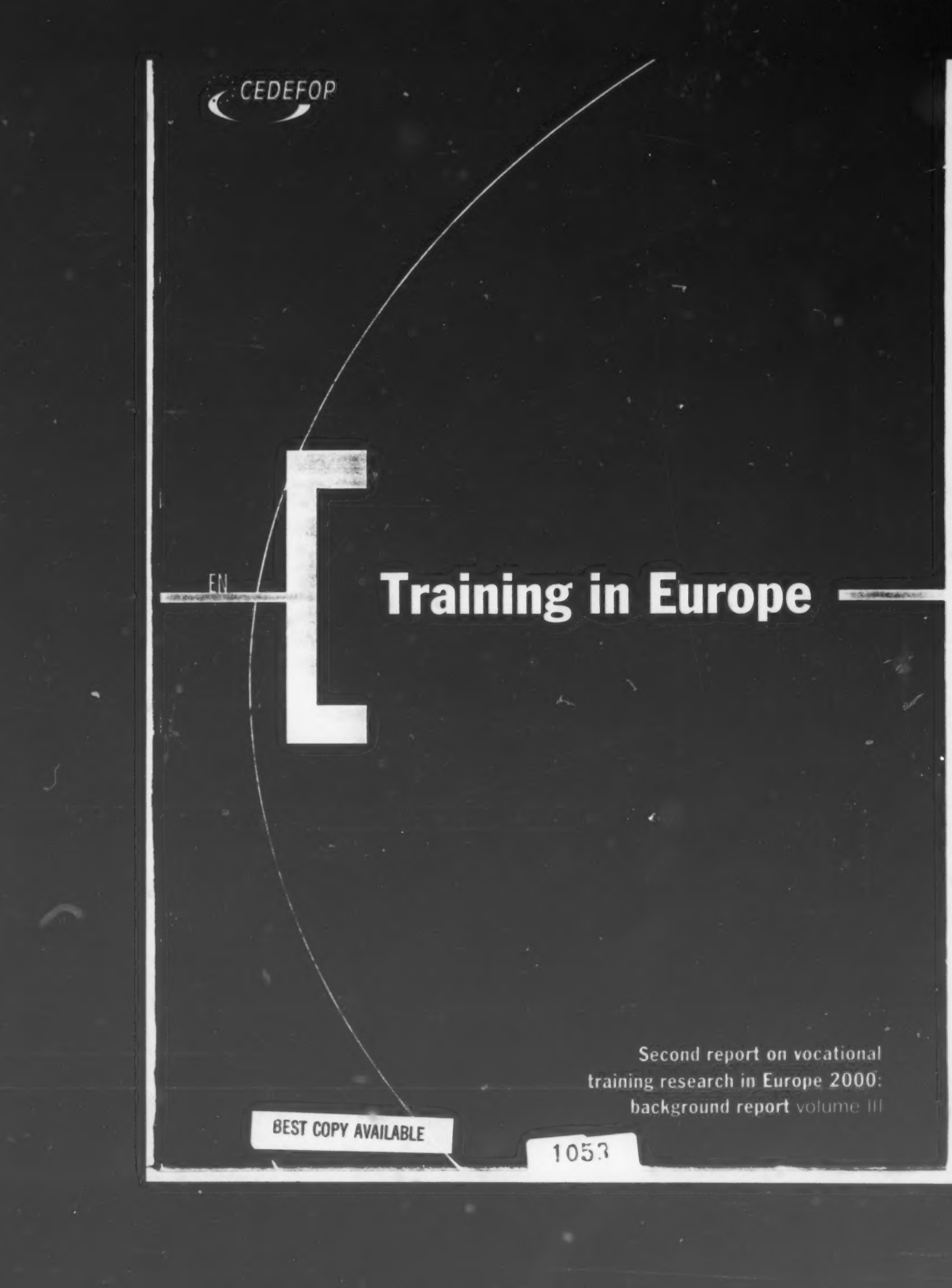
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1050

Volume 1

Preface 5

Part one: VET systems, coordination with the labour market and steering

Steering, networking, and profiles of professionals in vocational education and training (VET)
Lorenz Lassnigg 11

Financing vocational education and training
Andy Green, Ann Hodgson, Akiko Sakamoto, Ken Spours 71

How to improve the standing of vocational compared to general education A collaborative investigation of strategies and qualifications across Europe
Johanna Lasonen, Sabine Manning 115

Certification and legibility of competence
Annie Bouder, Laurence Coutrot, Édith Kirsch, Jean-Louis Kirsch, Josiane Paddeu, Alain Savoyant, Emmanuel Sulzer 169

The changing institutional and political role of non-formal learning: European trends
Jens Bjørnåvold 213

The problems raised by the changing role of trainers in a European context
Mara Brugia, Anne de Blignières 253

Part two: Lifelong learning and competences: challenges and reforms

Lifelong learning – How the paradigm has changed in the 1990s
Martina Ní Cheallaigh 265

Training for new jobs: contents and pilot projects
Jeroen Onstenk 319

Vocational training and innovative practices in the environmental sector A comparison of five EU Member States, with specimen cases
Roland Loos 357

Company-based learning in the context of new forms of learning and differentiated training paths
Peter Dehnbostel, Gisela Dybowski 391

1057

Volume 2

Part three: Training and employment in a company perspective

Globalisation, division of labour and training needs from a company view
Johan Dejonckheere, Geert Van Hootegem 7

Training, mobility and regulation of the wage relationship: specific and transversal forms
Saïd Hanchane (With the assistance of Philippe Méhaut) 45

The employment and training practices of SMEs Examination of research in five EU Member States
Philippe Trouvé (With the collaboration of: Elyes Bentabet, Bruno Courault, Mary Creagh, Clémence Millière, Joseph Reindl, Markus Fecht, Hartmut Reineke) 91

Human resource development in Europe – at the crossroads
Barry Nyhan 233

Reporting on human capital; objectives and trends
Sven-Åge Westphalen 249

Vocational training research on the basis of enterprise surveys: An international perspective
Lutz Bellmann 279

Part four: Employment, economic performance and skill mismatch

The skills market: dynamics and regulation
Jordi Planas, Jean François Giret, Guillem Sala, Jean Vincens 313

Economic performance of education and training: costs and benefits
Alan Barrett 383

Unemployment and skills from a dynamic perspective
Joost Bollens 405

Overqualification: reasons, measurement issues and typological affinity to unemployment
Felix Büchel 453

Forecasting skill requirements at national and company levels
Rob A. Wilson 561

1058

Volume 3

Part five: Individual performance, transition to active life and social exclusion

Training and individual performance: evidence from microeconometric studies
Friedhelm Pfeiffer 7

The effect of national institutional differences on education/training to work transitions in Europe: a comparative research project (CATEWE) under the TSER programme
Damian F. Hannan et al. 43

Education and labour market change: The dynamics of education to work transitions in Europe
A review of the TSER Programme
Damian F. Hannan, Patrick Werquin 91

Selection, social exclusion and training offers for target groups
Jan Vranken, Mieke Frans 137

Training and employment perspectives for lower qualified people
Jittie Brandsma 173

Part six: VET research activities outside the European Union

Research on vocational education and training at the crossroads of transition in Central and Eastern Europe
Olga Strietska-Ilina 209

VET research in other European and non-European countries
Uwe Lauterbach et al. 319

Annex: VET related research on behalf of the European Commission

Research on vocational education and training in the current research framework of the European Commission
Lieve Van den Brande 377

Synopsis of selected VET related projects undertaken in the framework of the Leonardo da Vinci I programme 387

Targeted socio-economic research (TSER)
Project synopses 427

1059

Part five:

Individual performance, transition to active life and social exclusion

1080

Training and individual performance: evidence from microeconometric studies

Friedhelm Pfeiffer *

Abstract

Learning at school and university and also at the workplace has become more important in the knowledge-based economy. This paper provides a critical review of recent econometric work on the determinants and impacts of training in Europe. Training has non negligible positive effects for firms and trainees; for the group of non trainees potential negative effects has been found in some studies. The incidence and the impact of training depend on the national education and training system. However, selectivity, diversity of training, individual heterogeneity, self selection and general equilibrium effects seem to play an important role in all training systems.

* Sladjana Milentijevic and Jochen Möbert provided research assistance. Furthermore, I would like to thank Pascaline Descy, Manfred Tessaring and members of the CEDEFOP research network for many valuable comments and remarks. The usual disclaimer applies.

1061

Table of contents

Summary 9

1. Introduction 12

2. VET and economic performance – selected indicators 13

3. Theoretical considerations: education, innate abilities and mobility 14

4. Econometric methods, data and measurement issues 19
4.1 Econometric methods 19
4.2 Microdata on VET 21
4.3 The measurement of training and outcomes 24
4.4 The set of explaining factors 25

5. Discussion of results 26
5.1 Summary 26
5.2 The determinants of training 26
5.3 The effects of training 30

5. Conclusions 35

6. Bibliography 39

1062

Summary

Learning at school and university and also at the workplace during working life has become more important in the knowledge-based economy due to economic and technological change. In some occupations and places of work, skill obsolescence due to technical change seems to be arriving more rapidly.

This raises questions on the importance of general versus more specific types of knowledge and skills, and the relative importance of classroom-based education versus self-organised forms of learning. In European Union countries, more people are better educated, more participate in continuous training and on-the-job learning. However, empirical knowledge on the determinants and effects of different methods of learning is still scarce, especially from a European viewpoint.

Although there is a widespread belief in a positive relationship between education, training and growth, the evidence provided so far is far from being complete. Aggregate figures for the European Union suggest a clear hierarchical pattern in the labour market: those who are better educated are on average better represented in the work force; have higher earnings; participate more frequently in formal continuous training; are less often unemployed; are more often self-employed; have a higher regional mobility, and work with newer and more high tech equipment. Job mobility on the other hand is negatively correlated with the amount of human capital invested in a specific occupation, since investment increases switching costs. The pattern seems to have been rather stable over the past few decades, although continuing skill-biased technological change is a challenge for VET policy in Europe.

These stylised facts do not necessarily mean that those who are better educated or have higher educational qualifications also have a higher lifetime income or utility, because in the investment period they often have higher costs and there may be substantial comparative advantages for different educational pathways (for example, more cognitive or more mechanistic skills) for different people. Assuming heterogeneous individuals, there are individuals at the margin, whose lifetime utility is rather similar in different pathways and there are individuals who receive higher utilities either with lower or higher educational qualifications.

What one would really like to know for policy analysis is the value of the lifetime utility of a person for different educational pathways under different educational standards and regulations. However, these values are not observable and estimates available are far from being conclusive in all respects.

The critical review of more specific econometric work in this study indicates that training is beneficial for both firms and individuals. The benefits are not negligible, in fact they are sometimes rather large. The fact that training has positive effects is, however, no guideline *per se* for government activity. There is evidence that self-selection on the one hand and general equilibrium effects on the other are at work. As a rule, training has positive effects and net benefits for trainees. However, there is some evidence that net effects for non-trainees might not be positive. In these cases, training might be a bad investment for the respective people, firms and – from the viewpoint of economic efficiency – for society.

In addition, non-negligible parts of observed differences in outcome variables such as earnings, wages, hours of work or career satisfaction cannot be attributed to education and training. Innate abilities, heterogeneity of abilities and preferences, family background, political events (for example the fall of the Berlin wall on 9 November 1989 had significant impact on the East Germans), luck and the path of economic and technological development are factors which are all important. Selectivity, diversity of training, selection and general equilibrium effects seem to play an important role in all training systems as well.

The empirical results suggest that the more structured the whole training system is and the more investment in general human capital acquired while a person is young, the lower the returns to continuous training are after

1063

this high initial investment. If education is centralised and compulsory school attendance is expanded, then all people should achieve higher levels of education and formal skill levels. Selection into different career pathways transmitted through labour markets begins after compulsory school attendance. If the level of more general types of skills learned in schools is high, training at the workplace plays a different role and is no longer responsible for building up these more general types of skills. Such mechanisms seem to be responsible for the lower returns to continuous training in countries such as Germany and France compared to the United Kingdom. Conversely, the less structured the training system is, the higher the measured returns of continuous training seem to be.

European training systems differ. The different types of investment in VET and the spacing of these investments over an individual's life and the role of the State will depend on differences in prices for education, expected wage profiles, the skill structure of the workforce, tradition and technological factors. Success at school and other training institutions is not the only factor explaining work-related success and careers. Labour market regulations and institutions might lead to insider power and create entry barriers and waiting queues for young workers, despite higher education and greater investment in training. Such mechanisms seem to be present in most European countries, although to different degrees.

Some of the findings are a major challenge to the role of government in training. Obviously, formal education and training are not omnipotent weapons against all storms of life for all people, but they may be very strong weapons when used at the right time, to the right extent and with the right content. At other times in an individual's working life, other weapons such as non-formal learning, regional, firm or occupational mobility might be more helpful.

Centralisation, in the sense of generally acknowledged educational certificates (trades in the German dual vocational training system, for example) might be helpful for some occupations and especially when larger investments in educational qualifications are considered. However, there seem to be limits to such strategies.

Firstly, the German apprenticeship system sometimes seems to react very slowly to rapid economic or technical change (Blechinger and Pfeiffer 2000) with the consequence that training curricula are old fashioned and skill obsolescence becomes a problem for firms and workers, which they try to overcome by additional and costly continuous training. Secondly, the set up and running costs of such a system can be rather high. More decentralised, deregulated and flexible systems, similar to those in the United Kingdom or the United States which depend to a higher degree on market signals, might have an advantage in times of rapid and unpredictable technical change. However, there may be other benefits in a more centralised system with compulsory school attendance. Youth unemployment is low in Germany and participation rates in VET are high. Imperfect capital markets, which can create entry barriers for poor young individuals in market economies do not play a major role. One single optimal VET system does not exist. Policy-makers have to attach weight to different policy objectives when policy changes are considered.

Key qualifications and more general human capital cannot be acquired in a short time. If technologies change, key qualifications will also change – to some extent at least. They have to be acquired through a long and continuing process (Weinert 1997) which presumably will have a sustainable impact when people are young or very young. The older individuals become, the more important non-formal and self-organised types of learning become. Mobility between occupations, regions and firms might also be valuable strategies for improving the career position of workers.

For improving VET policies an adequate, systematic and regular research design *ex ante* would be helpful, to allow greater understanding of the relationship between specific VET activities and the actual, secondary and desired results. Due to tight public budgets, the need for evidence of impact and efficiency of

1064

new and existing programmes will increase in future. A research design that takes diversity of situations, heterogeneity of individuals, differences in training systems, governments, markets, etc. into account is, however, expensive and takes time. If, for example, a unified European survey on VET would be conducted in the year 2000, the results of the analysis would only be available between 2001 and 2004 or even later. If one wished to compare the results over a longer time span, for example over a period of 30 years (compare the National Child Development Study – NCDS – from the United Kingdom which started 1958) results would not be available until 2030.

Besides research based on microdata which allows one to investigate the determinants and partial impacts of VET at individual level, general equilibrium effects should also be investigated using time series or panel data. Research on VET based on microdata might be improved if it were more regularly and systematically based on European wide conducted data sets, such as ELFS, European Household Panel or IALS. Despite methodological problems, international surveys should have the advantage that the most interesting human capital and training variables are defined in comparable ways. Empirical results for different regions might be more comparable and differences in results might help to identify the different impacts of national VET policies.

National VET programmes and policies dominate Europe. It is therefore necessary to evaluate specific VET programmes on a regional or national basis. There is no need for standardised and European-wide evaluations if national VET programmes dominate. Most firms hold formal or more informal training programmes. Therefore, there *are* markets for training and these programmes seem to provide returns to investment which are as high as other investments in machines or research. However, the author is not aware of systematic research on the returns on training investment by private firms. This would be an additional source of extremely valuable knowledge and information for assessing public VET policies.

From the author's point of view, future research could be directed towards the following questions to improve the understanding of the impact of VET policies at both individual and aggregate levels, and optimise policy reactions to technology and other shocks. The questions are interrelated.

1. Research on specific public VET programmes should be intensified to learn about partial impacts at individual level and efficiency of programmes. This type of research is usually based on microdata if the programmes are not too large. A partial evaluation design ignoring general equilibrium effects should suffice.

2. Research on public VET systems should also be intensified. This type of research should evaluate the whole system and also take into account general equilibrium effects, financial efficiency and labour market institutions. Research on this topic is usually based on aggregate time series data, individual panel data and official data on programme costs.

3. Research on the returns of VET for non-participants should be intensified. Should governments help non-participants and especially individuals with low skills to participate in VET or CT, or are other measures, for example wage subsidies, better for improving the labour market position of the low skilled?

4. It is not fully understood, whether there are cumulative negative or positive relationships of public VET policies of different types transmitted through labour markets. Therefore, research on the question of whether public promotion of higher education in the past 30 years had a negative impact on wages and labour market prospects of individuals with vocational education should be intensified to avoid negative relationships in future and improve coordination between educational and labour market policies.

5. How efficient will educational policies and relative higher and secondary education for the next 50 years be for young people en-

tering national training systems in the next five or 10 years? What is the optimal portfolio for different types of education? Should it be more general or more specific in nature, and should it be for individuals, firms, regions or Europe?

1. Introduction

Learning at school and university and also in the workplace during working life has become more important in the knowledge-based economy. In some occupations and places of work, skill obsolescence due to technical change seems to be arriving more rapidly. This raises questions on the importance of general versus more specific types of knowledge and skills, and the relative importance of classroom-based education versus self-organised forms of learning. In European Union countries, more people are better educated, more participate in continuous training and on-the-job learning. However, empirical knowledge on the determinants and effects of different methods of learning is still scarce, especially from a European viewpoint.

In this article, the relationship between learning, training and individual performance is discussed from a theoretical and empirical point of view, based on scientific research on the determinants and impact of training in the past decade. The main question is who participates in training and for what reasons, and what the effects are with respect to productivity, wages, job search, employment, job duration, mobility, careers and other variables. These questions can be applied to all agents involved in the training process, namely for individuals, firms, training institutions as well as governments. The research task is to measure the training incidence and outcome and to look behind the mechanism which may help to explain the results. Since governments in Europe are increasingly involved in educational policies and active labour market programmes for improving the skill level of the unemployed, and public budgets are tied, evidence on the effectiveness and efficiency of such policies becomes more important.

In Europe, there is a great variety of training measures in terms of their content, duration, financing and direction, depending among other things on the changing historical and cultural role of the State in the education and training process. Thus, the determinants and outcome of training are also characterised by a considerable amount of heterogeneity. For some individuals, training has a positive impact under particular conditions, for others it seems to have no or even a negative impact. Although there is widespread belief in a positive relationship between education, training and growth, evidence provided so far is far from complete.

In this study, attention will be restricted to a microeconometric analysis of the determinants and effects of initial and continuous training in European countries or selected regions in Europe. The goal is to quantify different factors determining training and its outcomes. It rests on theoretical and statistical models and ideally allows the testing of conflicting hypothesis or alternative explanations. Due to the increased availability of microdata and to an increased use of microeconometric models in the past 10 to 20 years, this is a dynamic and growing field of research. It was not possible to review all of the work done in this field.[1]

The report concentrates on quite recent works carried out using data from European countries. Furthermore, there is focus on economic aspects of training, namely on incentive and investment issues. This does not mean that other aspects are irrelevant. Social and cultural aspects are also of great importance (see Cedefop's first report on vocational training in Europe: Tessaring 1999). However, there

[1] I apologise if all available research is not mentioned and discussed according to its relevance. The selection of studies used for this report is the result of an electronic search strategy and a manual search in selected journals, *the European Economic Review, Labour Economics, Oxford Economic Papers, The Journal of Human Resources, Journal of Economic Literature and The Journal of Labour Economics*. In addition, recent research on the determinants and effects of training for German employees and the self-employed has been incorporated (Pfeiffer and Reize 2000).

1060

exists a trade-off between in-depth discussions of specific aspects of training from an economic viewpoint and a general discussion covering all aspects of training. This is not an issue for this study, since it favours a more specific discussion.

Although the main discussion centres around VET, some studies also refer to higher education at universities. This is important since in labour markets different types of skills may be substitutes or complements, depending on labour market institutions and technology. Recent research on skilled-biased technological change in industrial countries seems to indicate that skilled workers with higher secondary education are substitutes rather than complements for skilled workers with higher education (Machin and van Reenen 1998). In the process of technical change in particular, the share of skilled workers with secondary education is declining. Technical change seems to be biased to more cognitive and theoretical skills. The bias seems to depend not only on technological factors but also on labour market institutions. Therefore, extending the focus can help improve understanding of the basis for economic incentive and investment issues in education and training.

This chapter is organised as follows. The next part provides selected indicators showing the relationship between VET and economic performance in the European Union from a highly aggregated point of view using official data. Part three contains theoretical considerations on the relationship between ability, education and mobility. Individual or firm data sets are introduced in the next part, followed by a discussion of the theoretical and empirical methods underlying the empirical work and some issues with respect to the measurement of training and outcomes. There is virtually no unified data source that has been utilised for all countries of European Union and there is great variety in data, empirical methods and measurement of training. In part five, different results of theses studies are compared and discussed. In the last part, conclusions are drawn with respect to future research and VET policy in Europe.

2. VET and economic performance – selected indicators

This part provides an overview of selected empirical relationships between the amount of education and training a person received and his/her position in the labour market. The figures presented in Table 1 are based on highly aggregated numbers for the 15 Members States (EUR15, taken from Eurostat 1998 and the European Commission 1997) and, in the case of earnings, on 12 European member countries (taken from OECD 1998a).

In line with the discussion in Cedefop's first report on vocational training (Tessaring 1999) VET is identified with ISCED 3 (higher secondary education) and compared to ISCED 0,1,2 (preprimary, primary and lower secondary education) and ISCED 5,6,7 (higher education). The data collected refer to employment, unemployment and self-employment, to continuous training and earnings in 1995 or 1997, in EUR 15 or in 12 European countries.

It is shown in the first row of Table 1 that roughly 76% of those belonging to ISCED 3 aged 25 to 59 were employed, compared to 85% of those belonging to ISCED 5,6,7 and 59% of those belonging to ISCED 0,1,2. There is a monotonously positive relationship between levels of employment and the level of education, while unemployment rates are monotonously negatively correlated. Depending on the definition of unemployment, 7.3% or 8.8% of all those belonging to group ISCED 3 in EUR 15 had been unemployed in 1997, compared to 5.3% or 5.8% of those belonging to ISCED 5,6,7 and 8.4% or 12.5% of those belonging to ISCED 0,1,2.[2]

Youth unemployment rates in Europe are much higher than those for middle-aged people. However, again, there is a negative correlation between the level of education and

[2] The different numbers are the result of different definitions of unemployment. The lower numbers refer to the ILO definitions, the higher are based on the number of persons officially registered as unemployed.

the level of unemployment or the threat of unemployment. Those young people who have invested in an education comparable to a higher secondary education are less hit by unemployment than those who have invested less.

It is also clear from the numbers in the table that the higher the level of education, the higher the ratio of continuous training (CT). While roughly 6 % of the European medium-skilled labour force participated in CT during the past four weeks, only 3% of the low-skilled did so.

What is not as obvious and well documented is that self-employment rates (the figures in the table are based on the group of self-employed without employees) are positively correlated with the level of skills. The positive correlation is even more pronounced for the self-employed with employees, since qualification matters even more if the self-employed recruit employees and have larger firms (Pfeiffer and Falk 1999).

Education and earnings in the 12 European countries are also positively correlated. There are significant differences in the relative earnings position of VET earnings, but in every country they earn more than employed people with a lower level of education on average and less than employed people with a higher level of education. The wage distribution is more even in Scandinavian countries, but even less, for example, in Portugal, where low-skilled workers earn about 60% of medium-skilled workers and high-skilled workers earn about 183% of medium-skilled workers.

To summarise: aggregate figures for the European Union by and large show a positive correlation between investment in human capital and employment, earnings, self-employment and further investment in human capital and a negative correlation between human capital and unemployment.

There also seems to be a positive relationship between human capital, regional mobility and the use of high-tech machines at the workplace, as is reported by Pfeiffer (1997) for Germany, Entorf and Kramarz (1997) for France, or Blundell et al. (1997) for the United Kingdom. Occupational mobility on the other hand is negatively related with the amount of human capital invested in a specific occupation, since the costs of switching between occupations rise with former investments in human capital (Pfeiffer 1997).

A closer look at individual countries reveals different numbers in all these indicators but, by and large, the same pattern can be observed. The country numbers are documented in official reports of the European Commission and it is not necessary to repeat them in the current paper. The empirical relationship between training and other indicators differs between countries, with differences being the results of many factors, among them the economic and demographic composition of the labour force, the capital and technology intensity of firms and the industry, as well as differences in the governmental framework and policies of the individual European countries (Tessaring 1999; Müller and Shavit, 1998, OECD, 1998 b).

3. Theoretical considerations: education, innate abilities and mobility

According to a well-known distinction, there are two types of human capital: specific and general (Becker 1964). While general human capital is valuable in the whole economy, specific human capital is valuable only in a firm, region, or in conjunction with a special technology. Since resources such as time and money are scarce, individuals, firms, training institutions and governments have to make decisions about the composition of different types of investment in human capital. Findings from the aggregate level seem to suggest that there are different solutions to the trade-off between investment in either more specific or more general VET (Levhari and Weiss 1974) depending on the pace of cultural, economic and technical progress where the individual lives.

The trade-off is a result of at least two conflicting factors. More general skills and hu-

1068

man capital can be used in many different occupations and can help to reduce the cost of further education and learning, for example at the workplace. A large and rising degree of specialisation at the workplace, however, also requires very specific skills. People with these skills presumably start with higher productivity when entering a new workplace compared to people with more general skills. In times of more rapid technical change or increased uncertainty about the future of economic development, investment in more general skills can be a better strategy, because demand for specific skills in the future is uncertain and the risk of skill obsolescence higher. In times of reduced levels of uncertainty about the path of economic and technological development, investment in more specific skills might be a better strategy.

Larger amounts of investment in more general skills in all European countries over the past few decades can be explained as a reaction to increased levels of uncertainty about economic and technological developments. Although more people are better educated ('educational revolution'), the numbers and figures in Table 1 seem to indicate a clear hierarchical pattern in the labour market: those who are better educated are, on average, more often part of the workforce, have higher earnings, participate more frequently in training and are unemployed less often. In the past 20 years in most European countries, the percentage of workers with an academic degree has doubled (BMBF 1999). The percentage of workers with higher secondary education has also risen, but only slightly. Nevertheless, the hierarchical patterns seem to have been rather stable in recent decades. According to Mayer (1996), the hierarchical pattern has been stable in Germany for the past 50 years. However, the interrelated impact of educational revolution on the one hand and skilled-biased technological change on the other, might have far reaching consequences for the future of VET, a topic which will be discussed again.

The numbers presented in Table 1 are of a descriptive nature and are taken from aggregate statistics. The relationship may not be true any longer at individual level. A positive correlation between earnings and years of education in the aggregate is, for example, compatible with the observation that there are people with 18 years' education who do not earn more than people with only nine years' education. Furthermore, it is not possible to conclude on the basis of the numbers that the observed relationships and earnings differentials are the direct result of training or VET.

First, the differences in the outcome variables such as earnings may also be the result of other factors not under investigation in Table 1, for example age, gender or occupation. Differences in the age structure of the workforce may explain part of the positive relationship between levels of education and earnings, since investment in human capital typically takes time and is therefore positively correlated with age.

Second, people may put themselves into different training routes according to their preferences and innate abilities, factors which typically are not observed very well in empirical research. People take part in training because they expect higher net benefits, which might be difficult to observe for researchers. Innate differences in abilities, for example, can explain 50% of the variance of intellectual capacities of young people in Germany (Weinert 1997, Weinert and Schneider 1998). Furthermore, the ability differentials seem to stay rather constant over long periods and might not change in schools. A statistical correlation between schooling and training variables, and outcome variables such as earnings, might therefore be biased due to omitted variables such as innate abilities or ambitions, i.e. due to self-selection. The bias can be in both directions.

In economic terms, this is part of the human-capital versus signalling debate (Cohn and Geske 1990, Tessaring 1999, Weiss 1995, Wolpin 1977). The positive correlation between higher earnings and level of education may not be the result of investment in human capital, but higher investment in human capital might just be a signal of higher innate abilities. 'In the most extreme form of this screening hypothesis, schooling serves

Table 1: Education and economic performance – some indicators

Region/year	ISCED 0.1.2*	ISCED 3**	ISCED 5.6.7***
		employed (age 25 to 59)	
EUR15/1997	59.1 %	75.6 %	85.4 %
		unemployed (age 25 to 59)	
EUR15/1997	8.4 %	7.3 %	5.3 %
		out of labour force (age 25 to 59)	
EUR15/1997	32.5 %	17.1 %	9.4 %
		unemployment rates (age 25 to 59) (ILO def.)	
EUR15/1997	12.5 %	8.8 %	5.8 %
		employed (age 30 to 59)	
EUR15/1995	58 %	76 %	87 %
		unemployed (age 30 to 59)	
EUR15/1995	11.4 %	7.6 %	4.7 %
		unemployed (age 20 to 29).	
EUR15/1995	22.2 %	14.1 %	-
		threat of unemployment (age 20 to 29)	
EUR15/1995	5.2 %	3.1 %	-
		continuous training in the last four weeks: employees	
EUR15/1995	2.9 %	5.7 %	11.5 %
		self-employed without employees	
EUR15/1995	0.8 %	3.2 %	7.5 %
		relative earnings (age 25 to 65/age 30 to 44)	
Denmark	84/84	100	132/134
Finland	91/93	100	173/185
France	81/82	100	178/178
Germany	81/76	100	153/158
Ireland	84/85	100	183/183
Italy	80/76	100	148/156
Netherlands	86/86	100	129/137
Norway	85/85	100	138/142
Portugal	59/64	100	183/184
Spain	- /78	100	- /153
Sweden	91/90	100	149/153
UK	80/74	100	185/181

*ISCED Level 0: Pre-primary education, 1: Primary education, 2: Lower secondary second
**ISCED Level 3: Higher Secondary education
***ISCED Level 5,6,7: Higher Education
Sources: own composition from Eurostat (1998), European Commission (1997), OECD (1998a).

only to identify those individuals who are more productive in the market, the proposition being that an individual's productivity is unaffected by the formal schooling process.' (Wolpin 1977:950).

This debate is also relevant for CT, although the incentive and investment character of decisions in CT differ. Firms already know their workers and the information problem has therefore been solved and can no longer be the central issue if we look at firm and work-related training. However, training and promotion schemes are highly interrelated (Prendergast 1993) and the causal relevance of training for promotion can be questioned. Training at the workplace might rather be a consequence of promotion than promotion

1070

being a consequence of training. In that case, research on the determinants of promotion becomes as important as research on the determinants of training.

For the purpose of this study, training is defined as an investment by individuals, firms or the government. While the costs of training have to be born today, benefits will manifest themselves in the future. The outcome of training is uncertain to different degrees depending, for example, on the quality of the training institution, the path of technical change and economic growth, but also on the size of cohorts and demographic change (Tessaring 1999).

Investment in training is not the only relevant decision for any involved party, namely individuals, firms or governments. Firms, for example, have to decide on products, product quality, capital investment and innovations. Some of these decisions are highly interrelated to training decisions, such as introducing new products or new processes for improving the firm's position in the market. Firms have the option to hire skilled labour without training, which might lead to negative external poaching (Hocquet 2000) and insufficient training in a private economy.

The term 'training' should not be restricted to formal training activities, especially when one looks at CT (Weiss 1994, Pfeiffer and Reize 2000). Learning by doing, that is informal training at the work place, has important economic implications as well. Arrow (1962) assumes that the productivity of a firm depends on the total experience of all firms (measured by accumulated gross capital investment). In the course of time the same output will be produced with less and less labour ('learning curve'). The productivity effect arises solely from the process of learning through production ('learning by doing'), and the common knowledge character of experience ('knowledge spillovers').

Individuals also have to choose between several alternatives and actions. They can choose to change their firm to get higher wages, or they can choose to participate in privately financed training programmes. For individuals, to undergo VET is an important and far-reaching decision, and they should therefore be careful when making this decision. Expectations about the outcome of training, taking into account that other people may also decide to train, do indeed play a measurable role in individual behaviour (Heckman, Lochner and Taber 1999).

One general aspect to consider for all parties is the topic of timing of investments in human capital. Among other things, timing depends on compulsory school regulation, individual abilities, labour market regulations and career plans. This consideration suggests that the decision to undergo a particular training measure is part of a larger set of economic activities of firms, training institutions and individuals. Therefore, it does not always make sense to talk about the effect of training isolated from its context, since training is one of several simultaneous economic activities.

The determinants and effects of training depend on labour market institutions and the path of economic and technological development. They also depend on national education and training systems. That is, they depend on how and by whom education and training is financed, on its content, qualification and assessment. Training systems in Europe vary to a great extent with respect to all of these factors, as has been documented in the first report on vocational training. Comparing outcomes of different training types in the different systems in Europe may help to understand the complex interrelationships between education, training and outcomes. It may also provide a guideline for the optimal spacing of investment in training throughout life and improve the understanding of the role of government in optimising content, finance, assessment, qualification and participation.

Since training is viewed as an investment in this study, there should be a parallel between the cost and benefits of training (Lynch 1994, Booth and Snower 1996). According to the distinction of Becker, individuals receive a large part of the return of investment in general skills and human capital themselves. They should therefore bear a large part of the

1071

costs. This system works if, after making the investment, individual productivity is higher and wages on average are higher for trainees thus providing an incentive for the investment. Furthermore, this system only works if individuals can borrow money to finance their general training or if wages are lower during the training period. If capital markets are not perfect, that is, if there are credit constraints, not all those wishing to participate in training for reasons of efficiency might be able to do so. This can be an important issue for privately funded education systems and usually serves as one rationale for government interventions; another rationale is positive externalities of education, because they may also lead to insufficient investment in human capital in a free market economy (Booth and Snower 1996). If government subsidises general training, private returns in the form of higher wages can, in principle, be lower than in the case of training which is purely privately financed.

Changes in wages are not only determined by training, but also by a larger set of factors (Hamermesh 1993), among them the amount of investment in machines and human capital investments in the population. If the amount of training in the population is considerable, which is the case in all European countries, it is necessary to take general equilibrium effects of training into account. The returns to training can differ depending on whether one looks from a partial or general equilibrium view (Heckman and Lochner 1998). In a general equilibrium view, the cost of training and the longer-term impact on the economy-wide wage structure should be taken into consideration.

The benefits of more specific types of training may lie in higher productivity gains for firms. Therefore, firms should bear the costs of more specific training and wages may not change after training. The relationship between the optimal amount of investment in general and specific human capital depends among other things on individual preferences and abilities, the capital and technology intensity of firms and costs and financing arrangements. The returns on more specific human capital may additionally depend on the amount of general human capital that a person has acquired. Thus, education, initial and continuous training are interrelated and the incidence and impact of training depends on the training system of a society as a whole.

Over-education or coordination failure between several types of training may arise in an economy. An example of coordination failure seems to be the German training system, where general university education is largely paid for by the government, while vocational training is not. Recent trends in the demand for labour suggest that due to rapid technological change, vocational skills are becoming obsolete at an increasingly faster rate, which favours cognitive and more academic skills (skill-biased technical change, see Blechinger and Pfeiffer 2000, Machin 1996, Machin and van Reenen 1998). The bias in favour of skilled labour depends furthermore on labour market institutions. The more rigid the wage structure is, the faster upskilling will be during the computer revolution (Blechinger et al. 1997).

Labour markets in Spain might serve as another example of situations where labour market regulations also have secondary undesired effects. One reason for the very high unemployment rates for young people in Spain is the employment protection rules for older workers. The Spain youth labour market has therefore been characterised as a high-skilled – bad job labour market, since high skilled individuals end up in low skilled jobs, crowding out low skilled individuals (Dolado et al. 1999).

For other authors, the problem of under investment in general skills might be a serious problem for economic development. There might be a complementarity between general human capital and technological development (Acemoglu 1996). A lack of basic skills might hamper the speed of innovation. Firms who want to innovate have to train their workforce, which means additional costs of innovation for the firms and therefore less innovation and productivity gains. This can theoretically lead to the vicious circle of 'bad skills – bad jobs' or 'low innovation – low training' equilibria (Snower 1996).

1072

1072

Individuals, firms, educational arrangements and labour and product markets are characterised by a large degree of heterogeneity, where VET and CT play different roles. The rest of the paper is devoted to looking more closely into the relationship between VET, CT and outcomes in the labour market using data sets from firms and individuals. The following part introduces the potential and limitations of data sets, the methods used, as well as measurement problems with training variables and main explanatory variables.

4. Econometric methods, data and measurement issues

4.1 Econometric methods

Most studies reviewed below use econometric methods to quantify the determinants of training and its impact on wages, hours of work, duration of job search, duration of employment and other outcomes. Most of the studies explicitly take care of the self-selection problem in quantifying the impact of training. They model the decision to train and the outcome of training simultaneously.

The problem of impact measurements in social sciences[3] when compared with natural sciences is that social programmes cannot be easily isolated from real life processes (with the exception of psychological experiments). Social programmes such as public VET policy are embedded in real life. The main task of research is to measure the impact of the programme despite the fact that many other factors simultaneously influence participating individuals or firms and thus the desired outcomes. These influences stem from individual, social, economic and policy factors.

The coefficients of econometric works based on single equation outcome models with some training indicators as an explanatory variable, can be seriously biased by self- and/or programme-selection. Participants in training do not usually constitute a random sample of the workforce or the population of unemployed people. Those who see comparative advantages and higher net benefits in training might have higher probabilities of participation. Comparative advantages may result from lower costs of training or higher expected returns, or there might be special preferences towards training.

There is an ongoing scientific debate on the question of selectivity, individual heterogeneity and the role of institutions. If selectivity is empirically relevant, then simple comparisons of means of outcome variables between non-participants and participants in training and the coefficients of single equation models might be seriously biased. More complex econometric models would often be needed to solve the so-called 'comparison problem'. It is not possible to observe the outcome of an individual participating in training and the outcome of the same individual in the case where he/she would not have participated in that training. On the other hand, the difference between the mean earnings of non-participants and participants in training can be a misleading guide for assessing the impact of training. This is the case, for example, when participants in training programmes are more highly motivated or have higher innate abilities than non-participants. In such cases, earnings, working hours, or other outcome variables of interest may have already been higher before the participation in training and training may have no impact at all.

The advantages of training are usually identified by the difference between the two outcomes, one observed, and the other not observable. To assess the impact of training, one has to rely on estimates which can be based on a group of people without training. Obviously this group of people should be identical with

[3] For an in depth discussion of the methodological issues see Heckman, LaLonde and Smith (1999) and for a broader discussion of an evaluation of the welfare State and cost-benefits analysis of education and tax policies, Heckman and Smith (1998) and Heckman, Lochner and Taber (1999). Discussion in the paper will concentrate on the determinants and effects of training with the exemption of training programmes as part of the active labour market policies for the unemployed. For an extensive literature survey on impacts of active labour market programmes in the United States and Europe, see Heckman, LaLonde and Smith (1999).

1073

the people participating in training with respect to all relevant characteristics (whether they are observed or not) of the people and the environment in which they live. The comparison problem is to find such a control group. The precision and accuracy of the estimate will depend on the precision and accuracy of the control group. While some researchers believe that the comparison problem can only be resolved by means of social experiments, others have developed statistical and econometric tools for unbiased estimates of the impact of training with the help of non-experimental data.

In classical experiments, prospective programme participants have been randomly divided into one experimental and one control group. Given this research design, the difference between the outcome in both groups must be a result of the programme if all other conditions are similar. The other approach uses information from participants and non-participants of actual programmes. In this case, the individuals participating in a programme have been selected systematically, either by themselves or by specific programme rules. Since social experiments are rare in Europe, current research into the determinants and impact of training in Europe depends on non-experimental data and adequate econometric tools.

One possible solution is the comparison of the individual outcome variable before and after participation in VET in the framework of an econometric model (see Blundell et al. 1997, Pannenberg 1997 and Pischke 1996 for such a procedure). This information is, however, often not available, for example when people are young and have no labour market experience before entering VET. Pfeiffer and Reize (2000) use the concept of the comparison group in two ways. On the one hand, they compare trainees and non-trainees, taking care of the selection problem with econometric methods. This is a common way of taking advantage of non-experimental comparison groups.

Furthermore, the determinants and impacts of continuous work-related training between employees and the self-employed are compared. In this case, the self-employed group serves as a comparison group for assessing the relevance of estimated effects of CT for the group of employees. The self-employed decide for themselves concerning the amount of investment in training. In the case of employees, firms decide who participate in their work-related training programmes. The decision process is therefore more complex for employees, and aspects such as poaching externalities, funding or promotion ladders become important. Therefore, the estimated impact of training in the self-employed group provides a sort of benchmark value for assessing the role of human-capital for training in the group of employees (see Cohn and Geske 1990 for a survey on former studies based on differences between self-employment and wage work).

There might be intentional and unintentional outcomes of training, or the lack of it, which are either favourable or unfavourable for the individual, firm, region or industry, or the whole economy. Most econometric studies investigating training analyse the direct intended impact at personal or company level for some favourable variables such as wages, productivity, employment prospects, etc.. Secondary, sometimes undesirable effects occurring to other individuals, or at other firms or industries, might be important (so-called general equilibrium effects), although they are seldom investigated in empirical research. Examples of research which addresses these issues in a more indirect manner are the aforementioned studies on skilled-biased technological change and on over-education (Hartog 2000).

Secondary effects cannot be excluded empirically *a priori*. If some firms, for example, provide excellent training for their employees and thus are more competitive, other firms might lose market share, or their employees may have a higher probability of being dismissed. Such negative indirect effects are, however, difficult to trace, and their assessment often requires costly research designs. One important general equilibrium effect stems from the fact that government promotion of VET has to be financed and therefore affects the budgets and welfare of taxpayers.

1074

4.2 Microdata on VET

The aim of microeconometric studies on education and training is to investigate the determinants of training and assess its impact on subsequent working careers taking into account observed factors such as age, gender, labour market conditions as well as unobserved factors such as motivation or innate abilities. These studies are based on microdata. The units of observation are either individuals, firms or both.[4] The aim and scope of data differs considerably. Not all were, for example, collected for studying VET-related issues exclusively. This part provides an introduction to the empirical basis which should be helpful for a critical understanding of the results. The data belong to one of the following four types (see Table 2):

a) cohort data (CD);

b) cross sections (CS);

c) repeated cross sections (RCS);

d) panel data (PD).

CD consists of all persons or a sample of persons born for example in 1958 in England. These persons are either interviewed once in a retroperspective manner which is the case with the German Life History Study (GLHS), the Brabant Survey (BRAS), the Norway Survey (NORS) and the Lancashire Career Data Survey (LCSD), or are followed during their life on a regular basis. An example for the latter is the English National Child Development Study (NCDS).

The four cross-section data (CS) survey samples of persons or firms from a well-defined population at a point in time. The Dutch wave of the International Adult Literary Survey (DIALS) is a survey based on a sample of the whole Dutch population in 1995; the French Survey on Education and Qualifications (FDQ) is based on a sample of the adult French population; the Company Training in Ireland (CTIRE) data survey firms from Ireland in 1993, and the Community Innovation Survey (CIS) surveys firms from manufacturing in 12 European countries in 1993.

If survey data for well-defined populations are produced regularly without being connected individually, they are called *repeated cross sections* (RCS). Examples of this type of data are the German Qualification and Career (Q&C) data, a representative sample of employees surveyed in 1979, 1985 and 1991; the German Labour Force Survey (GLFS), a representative sample of the population surveyed every year (since 1991 GLFS has been part of the European Labour Force Survey), and the Swedish Level of Living Survey (SLLS), a representative sample of the Swedish population surveyed in 1968, 1974, 1981 and 1991.

The last type of data sets is termed panel data (PD). The same units of observations are surveyed at different time points again and again. Six studies rely on panel data, three on individual panel data (Dutch Biannual Labour Supply (OSA), biannually since 1992; German Socio Economic Panel (GSOEP), annually since 1984; Norwegian social insurance data (KIRUT) since 1989), three on firm panel data (Collective Bargaining in Large Firms (NCGE) in Spain since 1979, the Hannover Firm Panel (HFS) covering industrial firms in Lower Saxony, Germany since 1993 and the German Plant Panel (GPP) covering plants in Germany since 1993).

In a recent *Employment Outlook* (OECD, June 1999), the determinants and wage impacts of continuous training in seven OECD countries are studied: Australia, Canada, France, Germany, United Kingdom, Italy, the Netherlands also based on microdata. For European countries, they used the 1993 cross section of the German Socio Economic Panel, the French Survey on Education and Qualifications of 1993, the 1996 cross section of the British Household Panel of 1996, the 1991 Bank of Italy survey and the 1994 cross section of the Socio Economic Panel of the Netherlands. For a description of the last three data sets, which look quite promising for microeconometric research on training issues and which are not mentioned in Table 2, see OECD (1999).

[4] There is a tendency in empirical work to use matched employees-employer data (see Bellmann et al. 1999, Bratberg and Nilsen 1998, Entorf and Kramarz 1997, Krueger and Rouse 1994).

Table 2: Individual and firm data

Description (abbreviation in brackets)	Country/Region	Type*	Aims**	Unit of observation	Sample	Start	Frequency of interviews	Years under investigation
Brabant Survey (**BRAS**)	The Netherlands	CD	B	individual	Cohort 6. Class 1952	1952	1952/1983	1983
Lancashire Career Service Data (**LCSD**)	United Kingdom	CD	A	individual	Cohort of school leavers	1991	1 year	1991
Dutch wave of the International Adult Literary Survey (**DIALS**)	The Netherlands	CS	B	individual	Representative for the population	1995	once	1995
Dutch biannual labour supply survey (**OSA**)	The Netherlands	PD	B	individual	Employees 1994	1992	biannually	1994
French Survey on Education and Qualifications (**FQP**)	France	CS	A	individuals (matched with firm data)	Representative sample of French adult population	1993	?	1993
German Labour Force Survey (**GLFS**)	Germany (before 1989 West Ger.)	RCS	B	individual	Representative sample of the population	1981	1 year	1991, 1993, 1995
German life history study (**GLHS**)	Germany (before 1989 West Ger.)	CD	A	individual	Representative sample of cohorts	1929-31	1929-31, 1949-51, 1954-56, 1959-68	all
German Socio-Economic Panel (**GSOEP**)	Germany (before 1989 West Ger.)	PD	B	individuals	Representative sample of the population	1984	1 year	1986-93
Social Insurance Data (**KIRUT**)	Norway	PD	C	individuals	10 % sample of the Norwegian population	1989	regularly	1989-94
National Child Development Study (**NCDS**)	United Kingdom	CD	B	individual	Cohort of people born in 1958	1958	1958/1965/1974/1981/1991	1974-81 and 1981-91
Norway Survey (**NORS**)	Norway	CD	B	individual	Cohort of people born from 1956 to 1958	1975	1975/1981	1975-81
Qualification and Career (**Q & C**)	Germany	RCS	A	individual	Representative sample of employees	1979	1979/1985/1991	1979-91
Swedish Level of Living Surveys (**SLLS**)	Sweden	RCS	B	individuals	Representative sample of Swedish population	1968	1968/1974/1981/1991	1968-91
Community Innovation Survey (**CIS**)	Europe	CS	C	firms	Firms from the industrial sector	1993	once	1993
Collective Bargaining in Large Firms (**NCGE**)	Spain	PD	C	firms	Representative sample of firms with more than 200 employees	1979	1 year	1988/89
Company training in Ireland (**CTIRE**)	Ireland	CS	A	firms	Representative sample of firms from Ireland	1993	once	1993
German Plant Panel (**GPP**)	Germany	PD	C	plants of firms	Representative sample of plants matched with personal data	1993	1 year	1995
Hanover Firm Panel (**HFP**)	Lower-Saxony; Germany	PD	C	firms	Representative sample of firms from the industrial sector	1993	1 year	1993-95

; *Type: CD = cohort data; CS = cross sections; RCS = repeated cross sections; PD = panel data; **Aims: A = the main objectives are the determinants and the impact of education and training; B = the main objectives are related to education and training; C = the main objectives focus on other topics, but meaningful questions on education and training are included.
Source: own composition.

The remaining data designs differ according to the main focus of the surveys (see Table 2). While some aim directly at analysing training issues, others have different aims or should best be characterised by a multitude of aims. Nevertheless, these data have been used for analysing the determinants and impact of training. It is necessary to keep the main focus of the data sets in mind when interpreting the results or discussing policy implications.

The following categories of aims can be distinguished (see also Table 2):

a) the main objectives are the study of the determinants and impact of education and training (CTIRE, GLHS, FDQ, LCSD, Q&C);

b) the main objectives are also related to education and training (BRAS, DIALS, GSOEP, GLFS, NCDS, NORS, OSA, SLLS);

c) the objectives focus on a different set of topics; meaningful questions on education and training are included (CIS, GPP, HFP, KIRUT NCGE).

From the 18 data sets under consideration, five belong to category A, which was originally designed to provide an understanding of the relationship between training and the outcome of training, for example the performance of the labour market. Eight belong to the second group, where the study of training is one among several aims. As an example, the German or European labour force surveys should be mentioned, which aim at investigating issues such as participation, family situation, unemployment, social insurance and so on, and also continuous training. Five sets of data belong to the last category. They provide meaningful information on training, but have different aims. An example for this category is the 'Collective Bargaining in Large Firms' (NCGE) study from Spain, which aims at investigating wage-setting in large Spanish firms, but nevertheless provides meaningful information on firms' investment in training.

The types of data have specific advantages and disadvantages for investigating VET-related themes. Below, some of them will be sketched very briefly. Cohort data provide valuable information for a well-defined cohort of persons, but no information on individuals of other cohorts. Interactions between cohorts on the labour market cannot be studied. With cross section data it is, on the other hand, not possible to disentangle age and cohort effects. Earnings equations based on cross sections presuppose constant age-education-earnings relationships over time, which might be questionable in a dynamic world.

Longitudinal studies based on panel data or repeated cross sections are constructed to overcome these restrictions. Aspects of individual biographies, such as lifetime-earnings-profiles or education and training histories can, in principle, be investigated if the time period is long enough. The GSOEP, for example, started in 1984 and contains a biographical annex for all persons surveyed for the first time in 1984. In principle, longer life histories can be reconstructed with such a design.

However, longitudinal data might be plagued by the problem of comparison of variables and other information over time and might be affected by fluctuations in the business cycle or political and other events. Changes in the definitions of earnings, working conditions and hierarchies over longer time periods might lead to spurious correlations in empirical work.

The lessons to be learned from empirical work seem to be that there is no single ideal data set for all research problems. An ideal data set will depend on the goal under investigation and on financial resources as well, since conducting surveys is expensive.

Recently, in OECD countries and/or European countries, four surveys have been conducted to provide harmonised training statistics for OECD or European countries (OECD 1999): the International Adult Literacy Survey (IALS) 1994-95, the European Labour Force Survey (ELFS) 1997, the OECD/INES (Indicators of Education Systems) data on continuing training 1991-96, and Eurostat's Continuing Vocational Training Survey (CVTS) 1994. These surveys provide valuable insights into training among the different countries. Com-

Table 3: Dimensions of training in microeconometric studies

Dimension	Description
Type of training	initial training, continuous training;
Degree of formality	informal training (learning by doing); formal training courses: without a recognised vocational qualification, with a recognised vocational qualification.
Content	general knowledge; work-related training courses; occupation-specific training courses.
Subject	electronic data processing, languages, etc.
Provider	employer-provided training courses; individually provided training courses; government-provided training courses
Place	at school; in the classroom; at the workplace, inside a firm; outside the firm
Duration	in days, month or years
Frequency	number of courses taken in a month, year or in a 10-year period
Amount of resources invested	costs

Source: own composition.

parative research on VET in different countries based on cross section data now becomes possible.

However, measured participation rates in CT differ significantly between the four surveys (OECD 1999:142, 144), which is presumably a result of different definitions of training between the surveys and, furthermore, of sample sizes. To give the reader a numerical example of the diverging participation rates in career or job-related training: in Germany this rate amounts to 20% according to the IALS, 4.2% according to the ELFS, 33.3% according to the OECD/INES, and 24% according to the CVTS (OECD 1999: Table 3.2). That seems to indicate that harmonisation of surveys to provide harmonised statistics might not always be a superior strategy of data collection.

Some of these surveys have been used for microeconometric work in some countries. The IALS data have been used for investigating training in the Netherlands (Oosterbeek 1998), the ELFS data for investigating training in Germany (Pfeiffer 1997). Although these surveys seem to have specific problems as mentioned above, VET-related research could be improved if the data were to be used more systematically for all countries.

4.3 The measurement of training and outcomes

Training, like human capital, has several dimensions. In empirical research, it is necessary to measure the dimension of training. There are qualitative and quantitative dimensions. The following dimensions have been investigated, some of them overlapping (see Table 3). Besides more qualitative dimensions such as training in a classroom, at or outside the workplace, or training with or without a qualification certificate, there are some quantitative dimensions, such as the hours, days or years of training, or the cost of training. The studies presented all use slightly different definitions of training and none include comprehensive information on all dimensions of training.

Furthermore, it is necessary to measure the impact of training, which may reveal further

1079

Table 4: The outcome of training

Type of training	Initial training, continuous training;
Type	wages, earnings, productivity, hours of work, time of search for the first job, length of duration of the first job, mobility (regional, occupational), upward mobility, employment/unemployment, further training, others (health, fertility, democratic values, etc. not investigated here)
Impact	direct intended impact, direct impact not intended but favourable, direct impact not intended and not favourable, indirect impacts (general equilibrium effects), both desired or undesired
Level	individual, firm, training institution, region, industry, economy

Source: own composition.

dimensions (see Table 4). There must be a close relationship between the aim of a training programme and the measurement of outcome variables. In empirical literature, outcome measures include wages, earnings, productivity, hours of work, time of search for the first job after VET, length of duration of the first job, mobility (regional, occupational), upward mobility, employment and unemployment probabilities, further training and others.

While some types of vocational training aim explicitly at providing more general skills in the sense of transferable knowledge (transferable between firms, technologies and over time) such as the German dual vocational training system, others aim at providing rather specialised skills (such as large parts of CT) to master specific aspects of everyday work, for example a two-day training course to understand a new version of an internet browser. There are even more different types of training which aim at reintegrating people into the regular labour market, which applies for most active labour market programmes.

Furthermore, training programmes might have undesired secondary effects. This leads to a distinction between the direct impact of training at individual or firm level and indirect impact, sometimes termed 'general equilibrium impact'. For example: if an increasing number of people are trained with specific skills, the returns to this type of training may decline, or the number of people trained with more general skills may have an impact on the demand for labour in a different skill group.

4.4 The set of explaining factors

The task of the research is to assess the determinants and the isolated impacts of VET. Researchers try to quantify the direct impact of training, which is the difference between the outcome variable before and after training within the framework of econometric mod-

1080

els. Often the determinants of participation in VET and its outcomes are modelled simultaneously, which seems a natural way of tackling the issue, since training is chosen individually or by firms through its impact on desirable outcomes. The set of explanatory factors explaining training usually includes all or some of the following categories of variables:

- Socio-demographic background and work history (age, gender, experience, periods of unemployment, ...);
- family background information (education of parents, place of residence, ...);
- educational background and ability variables (intelligence scores, educational degrees, ...);
- information on former or current labour market conditions (regional unemployment rate, ...) and characteristics of the firm (if training was or is provided in a firm);
- information on the training institution (type of school, qualifications,...).

The set of explanatory factors explaining the impact of training includes variables which also belong to the above categories of variables as well as training indicators.

5. Discussion of results

5.1 Summary

The determinants and effects of training depend on individual characteristics, labour market institutions and the path of economic and technological development. Furthermore, they depend on national education and training systems. Education and initial and continuous training are interrelated, and the incidence and impact of training depends on the training system of society as a whole.

Critical review of empirical literature seems to indicate that the more structured the whole VET system is through institutional arrangements and State regulation, and the higher the amount of more general investment in human capital provided in the early years of life or of an employment relationship is, the lower the measured returns to continuous training are after the high initial investment. Conversely, the less structured the training system, the higher the measured returns of continuous training seem to be.

Furthermore, selectivity plays an important, but different role in training systems. It seems as if the more people or workers are trained to reach a higher level of general vocational skills, for example through State-financed training systems, the greater impact selectivity has on the labour market after finishing VET at schools and/or firms. The role of CT then changes: worker promotion becomes more important and those who are promoted are trained as well. However, if the government-regulated training system provides less general human capital during the early stages of an individual's life, selection for training at the workplace becomes important and the aim of training lies in providing specific or general skills.

5.2 The determinants of training

The discussion of results starts with the question of who participates in VET and CT? While in some countries such as Germany, the difference between initial VET and CT is rather clear cut, in other countries such as the United Kingdom, the difference is not so clear. In Germany, young people who do not enter the university system have to participate in the dual vocational training system. Young people either start a regular two-and-a-half to three-and-a-half year apprenticeship training scheme with a firm, or if they do not find an apprenticeship training place, they have to go to special VET schools until the age of 18. After finishing that phase of education and training, continuous training can start. In the United Kingdom, statutory schooling ends at the age of 16. Thereafter, there are three main qualification pathways (job-specific training, general vocational education, general education, OECD 1998b, Chapter five). One difference from the German system seems to be a higher degree of freedom and less institu-

1081

tional regulations with respect to choices of individuals and firms. Therefore, the boundaries between initial and continuous training are sometimes less obvious.

Evidence from empirical work (which has been put together in Table 5) can be summarised as follows:

- family background, school quality and ability (measured for example with mathematics scores) are important determinants of participation in VET and CT;
- CT first increases in parallel with experience and begins to decrease after 10 to 20 years;
- higher educational qualifications or vocational skills seem to increase the probability of receiving CT; there seems to be a correlation between the occupation chosen in initial and further training;
- former participation in CT also seems to raise the probability of CT;
- women do not have higher probabilities of participation than men and in some studies probabilities are lower;
- self-employed persons have a lower probability of participation than employed workers;
- minority groups, for example immigrants, have a lower probability of receiving training;
- part-time workers receive less training than full-time workers;
- larger firms provide more training than smaller firms;
- training probabilities in growing and in high-tech industries are higher;
- training probabilities are higher in more unionised industries and union members receive more training than non-union members;
- the probability of training decreases with job tenure, although the pattern in the first 20 years is far from being monotonous; workers staying in the firm where they received initial training have a lower probability of training than other workers;
- public sector establishments provide more training than private sector establishments;
- for the self-employed, non-formal CT seems to be more important than formal CT;
- initial training and CT seem to be substitutes in part.

These results indicate that selection and selectivity are important issues in the determinants of training. Training does not seem to be a random element of human economic activity. However, not all the results shown in the list are found in all of the studies. It is these differences that can help obtain a deeper understanding of the forces underlying training. The following issues are discussed in greater detail: the relationship between initial and continuous training, the role of gender and the determinants of initial training.

Although there is some need for more differentiation, most of the studies seem to confirm the positive relationship between the amount of human capital received in initial education and training and continuous training which becomes clear from the aggregate data (see Table 1) in a multivariate statistical framework. For studies based on personal data, see Arulampalam and Booth (1997), Blundell et al.(1997, 1999), Goux and Maurin (1998), Groot (1995), Pannenberg (1995, 1997, 1998), Schömann and Becker (1995) and OECD (1999); for studies based on firm data, see Alba-Ramirez (1994), Gerlach and Jirjahn (1998).

Oosterbeek (1998), who examined supply and demand factors in terms of training determinants, was able to show that while for firms (the demand side) education is insignificant, it is not for individuals. He suggests that the positive correlation between education and CT found in most of the studies is the result of omitted ability variables or self-selection. Furthermore, he argues that this finding is not a result of selectivity effects from the demand side. For firms, it does not matter whether they train better educated or less educated workers, but for individuals there are differences in the payoff of training, with a higher payoff for the better educated. There-

1082

Table 5: Determinants of the participation in VET/CT: summary

Data	Study	Type	Sample	Educational background and ability variable	Experience	Econometric method
NCGE	Alba-Ramirez (1994)	Firm-based training	Firms with more than 200 employees	+		Probit, tobit model
		Firm-based training for junior,		0		
		senior employees		+		
LCS	Andrews/Bradley (1997)	Vocational training or Non-vocational training	Young people leaving compulsory school			multinomial logit
			Women	- (academic ability)		
			Men	- (exam performance)		
NCDS	Arulampalam/Booth (1997)	Determinants job-related training	Women	+ (qualification)		Negbin hurdle model
				- (reading score)		
				+ (math score)		
			Men	0 (reading and math score)		
		Number of courses	Women	0 (qualification)		
				0 (ability)		
			Men	+ (qualification)		
				0 (ability)		
NCDS	Blundell, Dearden, Meghir (1997, 1999)	Work-related training with a recognised vocational qualification	Men	+		Probit, ordered probit
			Women	+		
		Employer provided training	Men	+		probit, ordered probit
			Women	+		
HFP	Gerlach/Jirjahn (1998)	Firm financed CT	Industrial enterprises	share of academic workforce + share of blue-collar workers -		Random Effects probit model; ordered probit
FQP	Goux/Maurin (1998)	Employer sponsored training	Workers in the private sector	+	+	Bivariate probit (mobility and training)
BHAS	Groot (1995), Groot/ Hartog/ Oosterbeek (1994)	Enterprise-related training	Wage earners	+ (ability) (education not significant)	+	MLE
OSA	Jonker/de Crip/van Smoorenburg (1997)	CT with the employer	Employed workers	0		Probit
GSOEP	Pannenberg (1995, 1997, 1998)	CT (duration, number, place, financing)	Full or part-time employed workers	+	inverted u-shape	Ordered probit, negbin hurdle model, multinomial logit
GLFS	Pfeiffer (1997	CT	Employed worker	+	inverted u-shape	Probit, ordered probit
			Self-employed	0	0	
Q&C	Pfeiffer/Reize (2000)	CT	Employed worker	+	inverted u-shape	Probit, ordered probit, MLE
			Self-employed	0	0	
DIALS	Oosterbeek (1998)	CT (work-related) in the last 12 month	Employed people	+ (numerical skills) Qualification: individuals do care, firms do not	inverted u-shaped	Probit, bivariate probit
GLHS	Schömann/Becker (1995)	CT	Males	+	cohort effects	Partial likelihood
			Females	+		

Source: own composition.

fore, more better educated people are more likely to participate in training.

Pfeiffer and Brade (1995), who processed detailed information on the subject of university education (engineers, natural scientists, employees in administration, economists and others), find that there is no monotonous positive correlation between education and CT. Their findings suggest that workers with a university degree in engineering or natural sciences have no higher probability of participating in CT than workers with apprenticeship training. Conversely, teachers and other workers with a degree in social sciences had a much higher probability of participating in CT. The authors conclude that in the age of natural science, engineers and natural scientists are the main producers of new knowledge and new products, and that the activity of this group of workers generates the need of CT for other staff. Therefore, engineers do not have the highest probability of participating in CT.

Findings suggest that education is not the only factor of the positive relationship between initial and further training. The activities of an employee, that is his or her position and tasks within the firm, have some explanatory power, too. Most of the studies cited only give some broad information on education and are therefore not suited as a basis for a deeper discussion of this question. One further exception is the study of Pfeiffer and Reize (2000) which indicates that in Germany the determinants of training for workers with an apprenticeship degree are higher if the type of apprenticeship belongs to the electro-technology or commerce industries compared to other trades. Such differences point to occupation-specific differences in skill needs resulting from technological change, or in differences in the quality of initial training in different trades.

A comparison between employed and self-employed people to identify the determinants of self-employment indicates that for the self-employed, the negative gender effects are not significant (Pfeiffer and Reize 2000). Since the self-employed decide on CT on their own, this says something about the role of the worker-firm relationship in the selection of participation in CT. It is not that women do not want to undergo training, but that firms seem to prefer men. A similar finding and argument is reported by Oosterbeek (1998), who argues that this behaviour may be the result of a higher investment risk, since women have a higher probability of career interruptions than men. The OECD (1999) study also found no significant gender differences in participation rates based on recent surveys.

Focusing on the determinants of participation in initial VET, evidence suggests that school quality and innate abilities have some explanatory power. The family background (parents' educational attainment) and the alternatives available to the individual also seem to be important for explaining participation in VET. There is by and large a positive relationship between parents' educational qualifications and the educational qualifications of children, although during the educational revolution a larger number of children from parents with lower educational qualifications entered universities (for Germany see Pfeiffer 1997). Innate differences in abilities can explain 50% of the variance of intellectual capacities of young people (Weinert 1997). Furthermore, the ability differentials stay rather constant over long periods and seem to be unaffected by schooling.

The study of Andrews and Bradley (1997) gives insights for a region in Britain. The results seem to indicate that a higher academic level reduces the probability of participating in VET after compulsory school and increases the probability of attending a university. The same is true for young people's occupational preferences and associated expected lifetime earnings. Judging from that variable, non-vocational continuing education is preferred to continuing vocational training, which again is preferred to the remaining alternatives (youth training schemes, working and on-the-job training, unemployment).

School type and quality seem to matter, although this is an ongoing debate. Dearden, Ferri and Meghir (1997) provide a summary of the research on school quality, educational attainment and wages, a large part of which has been carried out in the USA. Andrews and

Bradley (1997: 399), for example, differentiate between standard schools maintained by local authorities, a 'voluntary/grant' category and 'special' schools, 'which cater mainly for the needs of young people with learning difficulties'.

These variables have some explanatory power for explaining the long-term career choices of pupils. For example, school leavers from special schools have a higher probability of joining youth training schemes, while those from the first category have a higher probability of joining non-vocational continuing education. School size can also have an influence on the probability of non-vocational continuing education, where the greater the school size, the greater the negative influence.

Andrews and Bradley (1997: 408) conclude: 'Moreover, the estimates ... suggest a clear ranking of outcomes, where the most able end up following non-vocational continuing education, and the least able end up either unemployed or with jobs with only on-the-job training...' It is not clear how valid this statement is for different countries in Europe and for different types of training systems.

5.3 The effects of training

Does training have a positive impact, for example on productivity, job search duration and mobility and if so, what is its quantitative magnitude? Which part of the observed differences in wages or wage growth, in hours of work, or job duration can be attributed to training? Most econometric studies have investigated the effects on wages, on earnings or corporate productivity.

One should bear in mind that in standard earnings equations (so-called Mincer earnings equations) in cross-sections, 25 to 50% of the variance of earnings or wages can be explained by human capital variables such as years of education or educational qualification, training, age, professional experience, occupational status, technology and gender. The rest remains unexplained. This demonstrates that a quite substantial part of earnings variation among workers remains unexplained by the standard human capital approach. Other studies investigate the effect of training on job search duration, length of job duration, hours of work, post training firm job mobility and upward mobility, and the impact on employment probability. Although training and other human capital variables often have some explanatory power, again a large part of the individual variations in these outcomes variables remains unexplained by empirical research.

The findings of the econometric studies, which have been put together in Table 6, can be summarised as follows:

- there is a positive correlation between VET and wages (found in all studies with the exception of one study for Norway, where the effect is zero, Elias et al. 1994; in the other Norwegian study, the coefficient is positive, Bratberg and Nilsen 1998); the positive relationship between VET and wages depends on the type of VET, the country and the group of individuals under investigation; the estimated returns range between 0 and 40%;

- family background and ability have measurable effects on earnings (Blundell et al.1997, 1999);

- the estimated returns to training are by and large positive for the group of participants; there are examples where the estimated returns turned out to be negative for the group of non-participants (Groot 1995, Groot et al. 1994, Oosterbeek 1998). This suggests the existence of comparative advantages, general equilibrium effects and self-selection;

- there is evidence that the returns for employed workers are higher than those for the self-employed (Pfeiffer and Reize 2000);

- there is evidence that the returns to CT are higher if they are financed by individuals instead of firms (Pannenberg 1997);

- there is evidence that informal CT has returns (Weiss 1994) as well and that these returns are lower than those of formal CT (Pfeiffer and Reize 2000); there is further

1086

evidence that the degree of formalisation matters (Pfeiffer and Reize 2000), as well as school quality (Dearden et al.1997, not cited in Table 6);

- there is evidence that the returns from CT depend on the educational qualification and on gender (Blanchflower and Lynch 1994, Blundell et al. 1997, Elias et al. 1994 and OECD 1999, not cited in Table 6); the evidence for gender seems to be mixed, as well as the evidence with respect to educational qualification (Jonker et al. 1997); while former studies sometimes found a negative relationship between educational qualification and returns to CT, new studies with different econometric methods seem to challenge these findings (Abadie et al. 1999, not cited in Table 6);
- there is evidence that hours of work are positively correlated with CT (Pfeiffer and Brade 1995);
- there is evidence that upward mobility rises parallel to CT and educational qualification (Schröder and Blomskog 1997, Goux and Maurin 1998, Pannenberg 1997);
- there is evidence that employment prospects increase with educational qualification and firm-related CT (Blundell et al. 1997, Bratberg and Nilsen 1998, Mayer and Carroll 1987);
- there is evidence that job search duration after initial education and length of job spells in the first job rise with educational qualification (Bratberg and Nilsen 1998) and with the amount of human capital the firm invested in apprentices (Franz and Zimmermann 1999, not cited in Table 6);
- productivity of firms rises parallel to training (Alba-Ramirez 1994, Gerlach and Jirjahn 1998);
- there is evidence which suggests the existence of poaching externalities (Hocquet 2000);
- there is evidence that firms not only gain from specific investment in human capital (specialised training), but also from more general investment in human capital (general training) (Barnett and O'Connell 1998).

Although considerable methodological and data problems remain to be solved – the result stems from different countries, different data, estimators and methods used, and often the main objective of these studies is rather positive than normative analysis – these are interesting results which are especially important for VET policy.

First, results indicate that classroom education, work-related and more general types of training are beneficial for both firms and individuals. These benefits are not negligible and are sometimes rather large. Benefits from education. learning and training seem to occur to a great extent between individuals, firms and regions. Individual heterogeneity, differences in the education and training systems, are important factors behind these differences.

Second, the result that education and training has positive benefits does not mean that policy has been optimal or that publicly provided VET should be enhanced. There is rather a lot of evidence for positive impacts of VET on participants and comparably less evidence on the impacts of VET in the group of non-participants. In fact, there is evidence that self-selection on the one hand and general equilibrium effects on the other are at work. Training has positive effects and net benefits for the group of trainees. However, there is also some evidence that for non-trainees, net benefits might not in fact be positive. From the viewpoint of economic efficiency for these individuals, training might be a bad investment for firms, individuals and society. Furthermore, most of the studies reviewed do not investigate the costs of VET.

Third, any benefits of CT seem to decrease with the level of educational qualification. The lower the amount of initial training, the lower the incidence of CT, but the higher the measured returns in terms of any increase in wage. The benefits of CT for those who already have a high educational qualification seem to be

1097

Table 6: The effects of VET: summary

Data	Study	Training	sample	wage/earnings (+-volume)	post training mobility	employment
NCGE	Alba-Ramirez (1994)	Firm-provided training	Industry enterprises with more than 200 employees	Labour productivity +28% (4.2) (mainly driven by training of senior employees)		
CTIRE	Barnett/O'Connell (1998)	General training Specific training (Training expenditure total payroll)	Private enterprises	+2.0 (1.9) –0.8 (-1.0)		
NCDS	Blanchflower/Lynch (1994)	Training with current firm Apprenticeship No qualification + City and Guild Craft + City and Guild Awards Training with current firm Apprenticeship No qualification + City and Guild Craft + City and Guild Awards	Men Women 	1.8 (1.5) 1.8 (2.3) 1.9 (0.1) 7.2 (3.3) 2.6 (2.3) 1.8 (1.7) 1.6 (0.03) 2.7 (0.3)		
NCDS	Blundell, Dearden Meghir (1997)	Employer provided Training current job On-the-job Off-the-job Previous job On-the-job Off-the-job Other work-related training Employer provided Training current job On-the-job Off-the-job Previous job On-the-job Off-the-job Other work related training	Men Women 	 +4.1 (1.7) +7.2 (3.0) +6.2 (1.67) +6.0 (2.1) 6.7 (3.2) +0.3 (0.1) +4.6 (1.4) +0.5 (0.1) 1.0 (0.3) +6.6 (2.4)		+ +
KIRUT	Bradberg/Nilsen (1998)	<10, 10-12, 13-15, >15 years in education	Men / Women	increasing with education	Increasing with education	+ (13-15 years)
NORS	Elias/Hernaes/Baker (1994)	Vocational apprenticeship formal certificate	Men age 22-24 Women age 22-24	-/0 -/0		
FQP	Goux/Maurin (1998)	Firm-provided training	Wage earners	+7% (3.5) Selectivity bias corrected: –5.7 (0.9)	0 (firm mobility)	

BRAS	Groot (1995)	Enterprise-related training	Wage earners Trained Not trained	Rate of return per year Average marginal +28% -0.16 -83% -0.16		
FQP	Hocquet (2000)	Employer-provided training Content (11 categories) Qualification (6 categories) Duration (11 categories) From current firm From previous firm	Wage earners, men	 0-28% 0-17% 5-11% (not ordered) +7% +10%-+18%		
GLHS	Mayer (1996) Mayer/Caroll(1987)	Vocational apprenticeship compared to no vocational training	Employed		+ (expert statement)	+ (qualitative statement)
GSOEP	Pannenberg (1995, 1997)	CT on-the-job training employer-financed	Wage earners	 +9% (2.9) +3% (0.9)	Change of employer: 0 upward mobility + (short courses)	
GLFS	Pfeiffer/Brade (1995)	CT on-the-job Less than 1 month Longer CT off-the-job At a chamber of trade and commerce	Male wage earner	+7.2 (-3 -+ 7%) –2.4 (–0.1 –3.8)	Hours of work +1.9 1.6-3.4 +8.1 1.9-3.3	
Q&C	Pfeiffer/Reize (2000)	Formal CT with certificate Informal CT rel. to no training	Trained worker Rel. to no certificate Rel. to informal Train. self-employed Trained worker Train. self-employed	 11.8 % 28.6% -11% (rel. inform., n.s.) +16.1 % +-0.09 % (n.s.)		
DIALS	Oosterbeek (1998)	Work-related training	Trained Not trained	Positive returns for firms and worker 50% net effects negative for workers. but positive for firm 33% net effects for workers positive, but negative for firms 17% negative for both		
SLLS	Schröder/Blomskog (1997)	Educational levels EDUC2 Comp to EDUC 1 EDUC3 Comp to EDUC1 EDUC4 Comp. To EDUC 1 Post-entry education	Men / Women		(upward mobility) + 0 / +0 + / + +/ + + /+	

Source: own composition.

related to rising wages to a much less extent than for those with a lower level of qualification. However, it is currently too early to conclude on the basis of these findings and on economic efficiency reasons that people with a lower educational qualification should receive more training because their returns to training are higher (this seems to be one conclusion of the OECD employment outlook report, OECD 1999). The positive VET impacts for low educated people found in cross-sections (OECD 1999) might not stay constant in panel studies, hinting at unobserved heterogeneity problems in the cross-section studies (Abadie et al. 1999).

A refined version of the hypothesis seems to be more in line with the evidence. To a certain extent, VET and CT can be substitutes. In those countries where individuals invest a comparably large amount in initial VET (for example workers in Germany), returns to CT are lower than in those countries where people invest a comparably smaller amount in initial training, for example workers in the United Kingdom (compare Blundell et al. 1999 and Pfeiffer and Reize 2000 or Pischke 1996) or in the United States, where returns to continuous training also seem to be rather high (Lynch 1994). The refined hypothesis therefore postulates that returns to training after education are smaller if more people have received more initial education.

Fourth, government intervention in the training process of firms certainly has effects, which should be carefully investigated. There is some evidence that the French system provides more workers with training, because it is compulsory for firms to do so. However, in this system returns to training seem to be zero, even for those participating in training (Goux and Maurin 1998). Government interventions into private training processes might therefore have unintended negative secondary effects, which should be understood carefully for rational policy reasons.

Fifth, returns to CT seem to be higher for employed workers than for the self-employed (Pfeiffer and Reize 2000). From this result, one can conclude that human capital aspects in the narrow sense of productivity enhancement only constitute one part of the training story. CT is the result of complex negotiations between workers and firms. Self-selection, firm selection, industrial relations, and internal promotion ladders are important factors in the process of training. Training often seems to be the result of a pre-selection process where workers are matched to hierarchical positions. It is not always training which leads to higher wages but rather the selection process which is the driving force behind an increase in wage. After selection for higher positions has taken place, workers are trained and receive higher wages. So, if we observe that a person has been trained, we often merely observe that he has been promoted. This is the case in the United Kingdom, Germany and other countries. However, in the United Kingdom, returns to training seem to be higher than in Germany and investment in initial training is lower than in Germany. In France however, where firms have to provide training, returns equal zero. Therefore, training in the French system seems to be no indicator for internal promotion.

Sixth, in the papers reviewed there is no clear picture of market or government failure. While some findings can be interpreted as evidence of market failure ('poaching externalities', Hocquet 2000), others suggest that market forces work in the 'right' direction. An example for the latter statement is that returns to employer-provided CT have turned out to be lower than those of individually provided CT which seems to be in line with forecasts from the human capital theory of G.S. Becker (Pannenberg 1997). Yet another example is the zero return result for France (Goux and Maurin 1998), which could be interpreted as government failure since it is compulsory for firms to provide training, whether it is efficient for them to do so, or not. But overall, the studies surveyed cannot be used to draw strong conclusions on the relevance of market or government failures.

Seventh, training in a competitive environment may have positive effects on some individuals and some firms, while it may have negative or positive effects on other individuals or firms at the same time, or later. Trained workers might crowd non-trained workers out

of the labour force or out of jobs, and firms which provide more training and more innovative might crowd other firms out of product markets, because staff of the former are better motivated and they have innovative products. These negative, indirect effects cannot be ruled out in market economy. Good firms with superior technologies or lower costs have higher survival probabilities than other firms. However, if training is subsidised by government, assessment of VET programmes should take care of such indirect negative impacts. Some recent theoretical work is based on the assumption of positive external effects of VET (Acemoglu 1996, Lucas 1988). In the case of positive technological external effects, the productivity of trained workers in one firm is higher if the workers of other firms are also trained. Unfortunately, there is not yet enough empirical evidence on these issues with respect to training to be able to answer whether and under what circumstances training has a positive or negative secondary overall impact on society.

Eighth, there seems to be a large heterogeneity with respect to the determinants and effects of training. The estimated effects seem to differ between individuals, regions, over time and even between researchers and methods. This is true even if the same data are used, as can be seen by a comparison of the numerous studies performed by the British NCDS or the German GSOEP data. From the evidence surveyed in this paper and the diversity of it, it is not possible to draw strong and very specific conclusions with respect to VET policies. However, it is possible to draw some broader conclusions with respect to VET-related policy and research issues, which is carried out in the next part.

5. Conclusions

Although there is widespread belief in a positive relationship between education, training and growth, the evidence provided so far is far from complete. Aggregate figures for the European Union suggest a clear hierarchical pattern in the labour market: those who are better educated are on average more frequently found in the work force, have higher earnings, participate more often in formal continuous training, are less often unemployed, are more often self-employed, have a higher regional mobility, and work with newer and more high tech equipment. Job mobility on the other hand is negatively correlated with the amount of human capital invested in a specific occupation, since investment increases switching costs. The pattern seems to have been rather stable over the past few decades, although continuing skill-biased technological change provides a challenge for VET policy in Europe.

These stylised facts do not necessarily mean that those who are better educated or have higher educational qualifications also have a higher lifetime income or utility, because they often have higher costs in the investment period and there may be substantial comparative advantages for different educational pathways (for example, more cognitive or more mechanistic skills) for different people. Regarding heterogeneous individuals, there are individuals at the margin, whose lifetime utility is rather similar in different pathways, and there are individuals who receive higher utilities either with lower or higher educational qualifications.

What one would really like to know for policy analysis, is the value of the lifetime utility of a person for different educational pathways under different educational standards and regulations. However, these values are not observable and estimates available are far from being conclusive in all respects.

The critical review of more specific econometric work in this study indicates that training is indeed beneficial for both firms and individuals. The benefits are not negligible, in fact they are sometimes rather large. The fact that training has positive effects is however no guideline *per se* for government activity. There is evidence that self-selection on the one hand and general equilibrium effects on the other are at work. As a rule, training does have positive effects and net benefits for trainees. However, there is some evidence that net effects for non-trainees might not be positive. In these cases, training might be a bad investment for the respective people, firms and

– from the viewpoint of economic efficiency – for society.

In addition, non-negligible parts of observed differences in outcome variables such as earnings, wages, hours of work or career satisfaction cannot be attributed to education and training. Innate abilities, heterogeneity of abilities and preferences, family background, political events (for example the fall of the Berlin wall on 9 November 1989 had significant impact on the East Germans), luck and the path of economic and technological development are all factors which are important. Selectivity, selection and general equilibrium effects also seem to play an important role in all training systems.

By and large, empirical results suggest that the more structured the whole training system is, and the more investment in general human capital is acquired while a person is young, the lower the returns to continuous training are after this high initial investment. If education is centralised and compulsory school attendance is expanded, then all people should achieve higher levels of education and formal skill levels. Selection into different career pathways transmitted through labour markets only begins after compulsory school attendance. If the level of more general types of skills learned in schools is high, training at the workplace plays a different role and is no longer responsible for building up these more general types of skills. Such mechanisms seem to be responsible for lower returns to continuous training in countries such as Germany and France compared to the United Kingdom. Conversely, the less structured the training system is, the higher the measured returns of continuous training seem to be.

European training systems differ. The different types of investment in VET, the spacing of these investments over an individual's life and the role of the State will depend on differences in prices for education, expected wage profiles, the skill structure of the workforce, tradition and technological factors. Success in schools and other training institutions is not the only factor explaining work-related success and careers. Labour market regulations and institutions might lead to insider power and create entry barriers and waiting queues for young workers, despite higher education and more investment in training. Such mechanisms seem to be present in most European countries, although to different degrees.

Some of the findings are a major challenge to the role of government in training. Obviously formal education and training are not omnipotent weapons against all storms of life for all people, but they may be very strong weapons when used at the right time, to the right extent and with the right content. At other times in an individual's working life, other weapons such as non-formal learning, regional, firm or occupational mobility might be more helpful.

Centralisation in the sense of generally acknowledged educational certificates (for example, trades in the German dual vocational training system) might be helpful for some occupations and especially when larger investments in educational qualifications are considered. However, there seem to be limits to such strategies.

First, the German apprenticeship system sometimes seems to react very slowly to rapid economic or technical changes (Blechinger and Pfeiffer 2000) with the consequence that training curricula are old fashioned and skill obsolescence becomes a problem for firms and workers, which they try to overcome by additional and costly continuous training. Second, the set up and running costs of such a system can be rather high. More decentralised, deregulated and flexible systems such as those in the United Kingdom or the United States, which depend to a higher degree on market signals, might therefore have an advantage in times of rapid and unpredictable technical change. However, there may be other benefits of a more centralised system with compulsory school attendance. Youth unemployment is low in Germany and participation rates in VET is high. Imperfect capital markets, which can create entry barriers for poor young individuals in market economies, do not play a major role. No single optimal VET system exists. Policy-makers have

1094

to put weight behind different policy objectives when policy changes are considered.

Key qualifications and more general human capital cannot be acquired in a short period of time. If technologies change, key qualifications will also change, at least to some extent. They have to be acquired through a long and continuing process (Weinert 1997) which presumably will have a sustainable impact when people are young or very young. The older individuals become, the more important non-formal and self-organised types of learning become. Mobility between occupations, regions and firms might also be valuable strategies for improving the career position of workers.

For improving VET policies an adequate, systematic and regular research design *ex ante* would be helpful, allowing greater understanding of the relationship between specific VET activities carried out and its actual, secondary and desired results. Due to tight public budgets, evidence of impacts and efficiency of new and existing programmes will grow in the future. A research design that takes diversity of situations, heterogeneity of individuals, differences in training systems, governments, markets, etc. into account is, however, expensive and takes time. If, for example, a unified European survey on VET were to be conducted in the year 2000, the results of the analysis would be available between 2001 and 2004 or even later. If one wished to compare the results over a longer horizon, for example, over a period of 30 years (see the NCDS data), results would not be available until 2030.

Besides research based on microdata which allows one to investigate the determinants and partial impacts of VET at individual level, general equilibrium effects should also be investigated using time series or panel data. Research on VET based on microdata might be improved if it would be more regularly and systematically based on Europe-wide data sets, such as the ELFS, European Household Panel or the IALS. Despite remaining methodological problems, international surveys should have the advantage that the most interesting human capital and training variables are defined in comparable ways. Empirical results for different regions might be more comparable and differences in results might help to identify different impacts of national VET policies.

National VET programmes and policies dominate in Europe. It is therefore necessary to evaluate specific VET programmes on a regional or national basis. There is no need for standardised and Europe-wide evaluations if national VET programmes dominate. Most firms sometimes hold formal or more informal training programmes. There are, therefore, markets for training and these programmes seem to provide returns on investment which are as high as other investments in machines or research. However, the author is not aware of systematic research on returns to training investment by private firms. This would be an additional source of extremely valuable knowledge and information for assessing public VET policies.

From the authors point of view, future research could be directed towards the following questions to improve understanding of the impacts of VET policies both on the individual and aggregate levels and optimise policy reactions to technology and other shocks. The questions are interrelated.

First: Research on specific public VET programmes should be intensified to learn about partial impacts at individual level and efficiency of programmes. This type of research would usually be based on microdata if the programmes are not too large. A partial evaluation design ignoring general equilibrium effects should suffice.

Second: Research on public VET systems should also be intensified. This type of research should evaluate the whole system and should take into account general equilibrium effects, financial efficiency and labour markets institutions as well. Research on this topic will usually be based on aggregate time series data, individual panel data and official data on programme costs.

Third: Research on returns to VET for non-participants should be intensified. Should

1095

governments help non-participants and especially individuals with low skills to participate in VET or CT, or are other measures, for example wage subsidies, better for improving the labour market position of the low skilled?

Fourth: It is not fully understood, whether there are cumulative negative or positive relationships of public VET policies of different types transmitted through labour markets. Therefore research on the question of whether the public promotion of higher education in the past 30 years has had negative impacts on wages and labour market prospects of individuals with vocational education should be intensified to avoid the possibility of negative relationships in the future and improve coordination between educational and labour market policies.

Fifth: What is the efficiency of educational policies and the relative efficiency of higher and secondary education for the next 50 years for the cohort of young people entering the national training systems in the next five or 10 years? What is the optimal portfolio of different types of education, more general or more specific in nature for individuals, firms, regions or Europe?

1098

6. Bibliography

Abadie A., Angrist J., Imbens G., 1999. Instrumental variables estimates of the effects of subsidized training on the quantiles of trainee earnings. Paper presented at the ZEW Research Conference on *Econometric evaluations of active labour market policies in Europe*, 25-26 June, 1999, Mannheim, Germany.

Acemoglu D., 1996. Credit constraints, investment externalities and growth. *In:* Booth A., Snower, D.J. eds., pp. 41-62.

Alba-Ramirez A., 1994. Formal training, temporary contracts, productivity and wages in Spain. *Oxford Bulletin of Economics and Statistics*, **56** (2), pp. 151-170.

Andrews M., Bradley S., 1997. Modelling the transition from school and the demand for training in the United Kingdom. *Economica*, **64**, pp. 387-413.

Arrow K.J., 1962. The economic implications of learning by doing. *Review of Economic Studies*, **29**, pp. 155-173.

Arulampalam W., Booth A.L., 1997. Who gets over the training hurdle? A study of the training experience of young men and women in Britain. *Journal of Population Economics*, **10**, pp. 197-217.

Barnett A., O'Connell P.J., 1998. *Does training generally work? The returns to in-company training.* Discussion paper series No. 1879, Centre for Economic Policy Research, London.

Becker G.S., 1964. *Human capital: a theoretical analysis with special references to education.* New York: Columbia University Press.

Bellmann L., Bender S., Schank T., 1999. Flexibilität der Qualifikationsstruktur aus betrieblicher Sicht: Substitutionalität oder Komplementarität. *Journal of Economics and Statistics*, **219** (1+2), pp. 109-126.

Blanchflower D., Lynch L., 1994. Training at work: a comparison of U.S. and British Youths. *In:* Lynch L., ed., pp. 233-260.

Blechinger D., Kleinknecht A., Licht G., Pfeiffer F., 1997. *The impact of innovation on employment in Europe – An analysis using CIS data.* EIMS Publication No. 46, European Commission.

Blechinger D., Pfeiffer F., 2000. Technological change and skill obsolescence: the case of German apprenticeship training. *In:* Heijke H., Muysken J., eds., Chapter 10.

Blundell R., Dearden L., Meghir C., 1997. *The determinants and effects of work related training in Britain.* The Institute for Fiscal Studies, London.

Blundell R., Dearden L., Meghir C., 1999. Work-related training and earnings. Prepared for the ZEW Research Conference on *Econometric evaluations of active labour market policies in Europe*, 25-26 June, 1999, Mannheim, Germany.

BMBF, ed., 1999. *Zur technologischen Leistungsfähigkeit Deutschlands. Zusammenfassender Endbericht 1998.* Bundesministerium für Bildung und Forschung, Bonn.

Booth A.L., Snower D.J., 1996. *Acquiring skills. Market failures, their symptoms and policy responses.* New York: Cambridge University Press.

Bratberg E., Nilsen O.A. (1998). *Transitions from school to work: search time and job duration.* IZA Discussion Paper No. 27, Institute for the Study of Labor, Bonn.

Cohn E., Geske T.G., 1990. *The economics of education.* Oxford et al.: Pergamon Press (3rd edition).

Dearden L., Ferri J., Meghir C., 1997. *The effect of school quality on educational attainment and wages.* The Institute for Fiscal Studies, London.

Dolado J.J., Felgueroso F., Jimeno J.F., 1999. Youth labour markets in Spain: Education, training, and crowding out. Paper presented at the 1999 conference of the *European Economic Association* in Santiago de Compostely, Spain 2-4 September 1999.

Elias P., Hernaes E., Baker M, 1994. Vocational education and training in Britain and Norway. *In:* Lynch L., ed., pp. 283-298.

Entorf H., Kramarz F., 1997. Does unmeasured ability explain the higher wages of new technology workers? *European Economic Review*, **41**, pp. 1489-1509.

1097

European Commission, 1997. *Continuing vocational training: Europe, Japan and the United States of America*. Luxembourg: EUR-OP.

Eurostat, 1998. *Erhebung über Arbeitskräfte. Ergebnisse 1997*. Europäische Gemeinschaften, Luxembourg.

Franz W., Zimmermann V., 1999. Mobilität nach der beruflichen Erstausbildung: Eine empirische Studie für Westdeutschland. *Jahrbücher für Nationalökonomie und Statistik*, **219** (1+2), pp. 143-164.

Gerlach K., Jirjahn U., 1998. Determinanten betrieblicher Weiterbildungsaktivitäten: Eine empirische Untersuchung mit Daten des Hannoveraner Firmenpanels. *In:* Pfeiffer F., Pohlmeier W., eds., pp. 311- 337.

Goux D., Maurin E., 1998. *Returns to continuous training: evidence from French worker-firm matched data*. Mimeo, Institut national de la statistique et des etudes economique, Paris.

Groot W., 1995. The wage effects of investments in enterprise-related training. *Empirical Economics*, **20**, pp. 133-147.

Groot W., Hartog J., Oosterbeek H., 1994. Returns to within-company schooling of employees: the case of the Netherlands. *In:* Lynch L., ed., pp. 299-308.

Hamermesh D. 1993. *Labor demand*. Princeton: Princeton University Press.

Hartog J., 2000. On returns to education: wandering along the hills of Oru Land. *In:* Heijke, H., Muysken J., eds., Chapter 2.

Heckman J.J., LaLonde R.J., Smith J., 1999. The economics and econometrics of active labour market programs. Paper presented at the ZEW Research Conference on *Econometric evaluations of active labour market policies in Europe*, 25-26 June, 1999, Mannheim, Germany.

Heckman J.J., Lochner L., 1998. Explaining rising wage inequality: explorations with a dynamic general equilibrium model of labor earnings with heterogeneous agents. *Review of Economic Dynamics*, **1**, pp. 1-58.

Heckman J.J., Lochner L., Taber C., 1999. General-equilibrium cost-benefit analysis of education and tax policies. *In*: Ranis, G, Raut, L.K. (eds.), *Trade, growth and development*. Amsterdam: Elsevier Science, Chapter 14.

Heckman J.J., Smith J.A., 1998. Evaluating the Welfare State. *In*: Strom, S. (ed.), *Econometrics and economic theory in the 20th century*, Cambridge: Cambridge University Press, Chapter 8.

Heijke H., Muysken J., eds., 2000. *Education, training and employment in the knowledge based economy*. London: AEA-Macmillan Series.

Hocquet L., 2000. Vocational training and the poaching externality: evidence from France. *In:* Heijke, H., Muysken J., eds., Chapter 9.

Jonker N., de Grip A., van Smoorenburg M., 1997. Do employees with flexible contracts participate less in training? Paper presented at the *LVIIth International Conference of the Applied Econometrics Association*, May 14-16, Maastricht.

Krueger A., Rouse C., 1994. *New evidence on workplace education*. NBER Working Paper No. 4831.

Levhari D., Weiss Y., 1974. The effect of risk on the investment in human capital. *American Economic Review*, **64** (6), pp. 950-963.

Lucas R.E., 1988. On the mechanics of economic development. *Journal of Monetary Economics*, **22**, pp. 3-42.

Lynch L., ed., 1994. *Training and the private sector. International comparisons*. Chicago, London: The University of Chicago Press.

Machin S., 1996. Changes in the relative demand for skills. *In:* Booth A., Snower, D.J., eds., pp. 127-176.

Machin S., van Reenen J., 1998. Technology and changes in skill structure: evidence from seven OECD countries. *The Quarterly Journal of Economics* **CXIII**, pp. 1215-1244.

Mayer K.U., 1996. Ausbildungswege und Berufskarrieren. *In:* Bundesinstitut für Berufsbildung eds., *Forschung im Dienst von Praxis und Politik*. Bielefeld: W.Bertelsmann Verlag, pp. 113-145.

Mayer, K.U., Carroll G., 1987. Jobs and classes: structural constraints on career mobility. *European Sociological Review*, **3** (1), pp. 14-38.

1093

Müller W., Shavit Y., 1998. The institutional embeddedness of the stratification process: A comparative study of qualifications and occupations in thirteen countries. *In:* Müller W., Shavit Y., eds., pp. 1-48.

Müller W., Shavit Y., eds., 1998. *From school to work. A comparative study of educational qualifications and occupational destinations.* Oxford: Clarendon Press.

OECD, 1998a. *Education at glance. OECD indicators.* Paris: OECD-Publications.

OECD, 1998b. *Pathways and participation in vocational and technical education and training.* Paris: OECD-Publications.

OECD, 1999. *OECD employment outlook.* Paris: OECD-Publications.

Oosterbeek H., 1998. Unravelling supply and demand factors in work – related training. *Oxford Economic Papers. New Series*, **50**, pp. 266-283.

Pannenberg M., 1995. *Weiterbildungsaktivitäten und Erwerbsbiographie. Eine empirische Analyse für Deutschland.* Frankfurt, New York: Campus.

Pannenberg M., 1997. Financing on-the-job-training: shared investment or promotion based systems? Evidence from Germany. *Zeitschrift für Wirtschafts- und Sozialwissenschaften*, **117** (4), pp. 525-543.

Pannenberg M., 1998. Weiterbildung, Betriebszugehörigkeit und Löhne: Ökonomische Effekte des "timings" von Investitionen in die berufliche Weiterbildung. *In:* Pfeiffer F., Pohlmeier W., eds., pp. 257-278.

Pfeiffer F., 1997. Humankapitalbildung im Lebenszyklus. *In:* Clar G., Dorè J., Mohr H., eds., *Humankapital und Wissen – Grundlagen einer nachhaltigen Entwicklung*, Springer: Berlin, Heidelberg, pp. 173-195.

Pfeiffer F., Brade J., 1995. Weiterbildung, Arbeitszeit und Lohneinkommen. *In:* Steiner, V., Bellmann L., eds. *Mikroökonomik des Arbeitsmarktes.* Beiträge zur Arbeitsmarkt- und Berufsforschung, Nürnberg, **192**, pp. 289-326.

Pfeiffer F., Falk M., 1999. *Der Faktor Humankapital in der Volkswirtschaft – Berufliche Spezialisierung und technologische Leistungsfähigkeit.* Baden-Baden: Nomos.

Pfeiffer F., Pohlmeier W., eds., 1998. *Qualifikation, Weiterbildung und Arbeitsmarkterfolg.* Baden-Baden: Nomos.

Pfeiffer F., Reize F., 2000. Formelle und informelle berufliche Weiterbildung und Verdienst bei Arbeitnehmern und Selbständigen. *In:* Weizsäcker R.K.v., ed. *Bildung und Beschäftigung.* Berlin: Duncker & Humblot (forthcoming).

Pischke J.S., 1996. *Continuous training in Germany.* NBER-working paper No. 5829, Chicago.

Prendergast C.J., 1993. The role of promotion inducing specific human capital acquisition. *Quarterly Journal of Economics*, **108**, pp. 523-534.

Schömann K., Becker R., 1995. Participation in further education over the life course. *European Sociological Review*, **11**, pp. 187-208.

Schröder L., Blomskog S., 1997. Labour market entry, vocational training and mobility in the Swedish young work force 1950-1991. Paper presented at the *LVIIth International Conference of the AEA*, May 14-16, Maastricht.

Snower D.J., 1996. The low-skill, bad-job trap. *In:* Booth A., Snower, D.J., eds., pp. 109-126.

Tessaring M., 1999. *Training for a changing society – A report on current vocational education and training research in Europe 1998.* 2nd ed. CEDEFOP, Luxembourg: EUR-OP.

Weinert F.E. (1997). Grenzen der Entwicklung des Humankapitals aus der Sicht der psychologischen Lerntheorie. *In:* Clar G., Dorè J., Mohr H., eds. *Humankapital und Wissen – Grundlagen einer nachhaltigen Entwicklung.* Berlin, Heidelberg: Springer, pp. 137-156.

Weinert F.E., Schneider W., eds. (1998). *Individual development from 3 to 12: Findings from the Munich Longitudinal Study*, New York: Cambridge University Press.

Weiss A., 1994. Productivity changes without formal training. *In:* Lynch L., ed., pp. 149-160.

Weiss A., 1995. Human capital vs. signalling explanation of wages. *Journal of Economic Perspectives*, **9** (4), pp. 133-154.

Wolpin K., 1977. Education and screening. *The American Economic Review*. **67** (5), pp. 949-958.

1099

The effect of national institutional differences on education/training to work transitions in Europe: a comparative research project (CATEWE) under the TSER programme

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Abstract

The paper presents a comparative empirical study on school to work transitions in a range of European countries. The project (CATEWE, 1996-2000) is funded by the TSER programme. Discussed are the main conceptual and methodological approaches, empirical data bases, progress to date with the study and some initial results from a related earlier research project carried out under the Leonardo da Vinci programme.

The main objectives of the CATEWE project are to:

a) develop a comparative conceptual framework to study school to work transitions in EU countries with different institutional systems, and

b) apply that model to both comparative stock analyses of labour force surveys (LFS) in most EU countries, and comparative flow analyses of school to work transition surveys (SLS) in five EU countries – France, Ireland, the Netherlands, Scotland and Sweden.

To do this effectively we need to develop

c) a set of comparatively defined variables which adequately capture the complexities of school to work transitions in France, Ireland, the Netherlands, Scotland and Sweden – as measured both by 'flow statistics' in their national school to work transition surveys and as 'stock' statistics in their national labour force surveys.

[1] The ESRI coordinates the project. The following are the main researchers and research centres in each country: participants D.F. Hannan and E. Smyth, ESRI, Dublin; D.Raffe, CES, Edinburgh; H. Rutjes, DESAN, Amsterdam; R. van der Velden, ROA, Maastricht; M.Mansuy and P. Werquin, CEREQ, Marseilles; W. Mueller, MZES, Mannheim.

1100

Table of contents

1. Introduction 45

2. A conceptual framework for comparative research on education/ training to-work transitions in Europe 46
2.1 The degree of institutional standardisation of ET systems 48
2.2 The extent and nature of differentiation within ET systems 49
2.3 The links between ET and LM systems 49
2.4 Labour market contexts and employment decisions 52

3. Methods: design of study: 53
Country selection 55

4. Progress to Date: (a) Construction of the comparative databases 57
4.1 Variable list and definitions in common database 58
4.1.1 Post-second level education and training 59
4.1.2 Labour market outcomes 59
4.2 Time series 59
4.3 Construction of comparative LFS datasets: (Coord. By MZES, Mannheim) 59
4.4 Progress on analyses of LFS and SLS surveys 60
4.5 Analyses of school leavers surveys 60

5. Results and conclusions 61
The Leonardo VTLMT study – 1997-98 62
Main results 63

Bibliography 66

Appendix: Variable specification for current SLS database 73

List of selected abbreviations used in this article

CATEWE	Comparative Analysis of Transitions from Education to Work in Europe (TSER project)
CLFS	European Community Labour Force Survey
DG	Directorate General (of the European Commission)
ET	education/training
EU	European Union
FE	further education
ILM	internal labour market
ISCED	International Standard Classification of Education
LFS	labour force survey
LM	labour market
OLM	occupational labour market
SLS	school leavers survey
TIY	Transition in Youth
TSER	Targeted Socio-Economic Research
VTLMT	Vocational Training and Labour Market Transitions (TSER project)

1191

1. Introduction

The main reason why comparative research on education/training to work transitions in European countries is important is its unique ability to assess the extent to which education, training and labour market integration processes are similar or different across EU national boundaries. If the same market and institutional processes operate in the same way and with the same outcomes and relationships across all countries there would be no need for comparative research. If, however, there are important national systemic differences in the complex relationships between individuals' social characteristics, education/training achievements and labour market outcomes then it is important for both research and policy purposes that these national differences be elucidated. The main purpose of the CATEWE research project is to do this.

The project builds on previous efforts in this field to develop a more sophisticated and comprehensive conceptual framework for this purpose. It constructs and uses a more comprehensive and standardised set of databases, and sets out to analyse these in more detail than previous efforts.

Four themes of that analysis appear most relevant to the aims of Cedefop's second report on vocational training research in Europe: the issue of educational and employment exclusion (point 7); detailed longitudinal surveys of education/training to work transitions (point 8); and the extent of 'matching' between education/training contents and levels and employment/occupational outcomes (point 9), with particular reference to low-skilled or poorly qualified school leavers (point 11).

The project is a comparative sociological and economic, empirical study on school to work transitions in a range of European countries. It is funded by former DG12[2] under the TSER programme (the CATEWE project, 1996-2000). This paper describes the main conceptual and methodological approaches to the study, the empirical databases used, progress to date with the study and some initial results from a related earlier research project carried out under the Leonardo (DG22[3]) programme. Since the research only started in December 1997 (to December 2000) and we have just started the analyses of the integrated, comparative databases we have no findings to report from these analyses. However we do provide some preliminary results from an earlier related comparative research project on early school leaving carried out under the Leonardo, DG22 programme (1997-98).

The main objectives of the CATEWE project are to:

1) develop a comparative conceptual framework to study school to work transitions in EU countries with different institutional systems, and

2) apply that model to both comparative stock analyses of labour force surveys (LFS) in most EU countries, and comparative flow analyses of school to work transition surveys (SLS) in five EU countries – France, Ireland, the Netherlands, Scotland and Sweden.

3) To do this effectively we need to develop a set of comparatively defined variables which adequately capture the complexities of school to work transitions in France, Ireland, the Netherlands, Scotland and Sweden – as measured both by 'flow statistics' in their national school to work transition surveys and as 'stock' statistics in their national labour force surveys.

The cross-national databases on national school leavers surveys contain almost 100 comparatively defined variables – though with many missing variable cells for some countries. These cover social background, initial and continuing educational/training variables, initial labour market experience vari-

[2] Directorate General 12, since 2000: Directorate General 'Research'

[3] Directorate General 22, since 2000: Directorate General 'Education and Culture'

ables. In addition to analyses of current school leavers' and labour force surveys a limited time series analyses of these school leavers' surveys will be carried out for Ireland and Scotland (1980–96) and for the Netherlands since 1988. In addition limited analyses will also be carried out on a comparative database of six-year follow-up surveys (1992-98) carried out in France and Ireland, and for a shorter period of observation in Sweden.

This paper is divided into five sections:

a) the conceptual framework,

b) study design and construction of comparative databases,

c) progress to date,

d) discussion of some relevant results from an earlier related study, and

e) conclusions.

2. A conceptual framework for comparative research on education/training to work transitions in Europe

Considering the varying institutional structure of European education/training systems and the varying national structure of education/training (ET) and labour market (LM) links, comparative European research on education to work transition is underdeveloped. We have only an incomplete and imprecise knowledge of the nature of the varying relationships across the different European countries, and we do not sufficiently understand the similarities and differences in these respects between EU countries, nor the mechanisms that can explain them. In the following section we will briefly discuss the major lines of research that have been pursued, highlighting the main gaps in existing knowledge.

The most influential conceptual approach has been that of Maurice, Sellier and Silvestre (1982). They conducted a detailed analysis of work organisation, job recruitment and occupational career patterns in a small number of selected French and German enterprises. Proposing a theory of *societal effects* they argued that the different kinds of qualifications which are produced in the German and French educational systems, and their use by German and French employers, result in complex system-specific relationships between qualifications and jobs. They describe Germany as a system patterned along a *qualificational space*, while France is considered to be patterned along an *organisational space*. In Germany, a rather differentiated set of widely recognised ET qualification outcomes are produced in a bipolar educational/training system (the dual system), and these courses and qualifications are used by employers both to organise jobs/occupations and to allocate suitably qualified people to them. In France, formal education is much less vocationally oriented and less closely related to the kind of work to be subsequently taken up. Skills and qualifications required for specific work tasks are mostly obtained (both formally and informally) through on-the-job training and are thus specifically tied to the needs of individual firms. Such organisation-specific qualifications have a less convertible value when workers move between firms. The association between ET qualifications achieved and LM positions subsequently achieved is, therefore, institutionally weaker in France than in Germany.

More recent studies based on this national institutional approach have generalised it by using the more general theory of segmented labour markets, rather than conceiving cross-national differences as idiosyncratic 'societal effects'. Countries have been typified according to the predominance of either occupational labour markets (OLMs), as in Germany, or the predominance of (firm) internal labour markets (ILMs), as in France or Britain. Equally there are substantial national differences in the relative importance of organised interest groups, and nationally agreed corporate interest mediation arrangements between employers, trade unions and governments, in agreeing the curricula, examination processes and qualification arrangements for ET provision systems – and the content of vocational

1103

education in particular. Systems where such agreed upon education/training system arrangements are institutionally linked to 'matched', occupationalised labour market arrangements, are obviously quite different from others where the ET system is quite autonomously organised and occupational labour markets are weak (see Marsden 1990; Marsden and Ryan 1990; Ryan, Edwards and Garonna 1991; Eyraud, Marsden and Silvestre 1990). Soskice (1990; 1993) extended these analyses by showing how institutional variables beyond the labour market itself help to explain the emergence of, and reliance on, occupational qualifications that are of general value beyond the individual firm. His comparative work emphasises the impact of the structure of coordination existing in an economy between the State, employers and unions. He distinguishes between liberal market economies (mainly the English speaking countries) with rather decoupled educational systems and inefficient systems of vocational training, industry coordinated systems (Germany and the Scandinavian countries), and group oriented market economies (mostly Japan).

Most of this work has been carried out within the broader field of industrial sociology and labour economics and is methodologically marked by traditions most characteristic of these fields. Most of the studies are based on comparisons of a rather limited number of, usually 'core', countries and are often restricted to small samples of firms in selected industries or locations. While this allows an in-depth analysis of the processes across two or three counties, or that operate within individual firms or workplaces across countries, the results of this approach can rarely be widely generalised.

An alternative conceptual and methodological approach has generally been pursued in studies more closely tied to the sociology of social stratification or education. These studies are usually based on national samples of individuals, representative of the adult population or of selected birth cohorts. The information collected generally includes social background data on individuals, the type and level of education and training received, and characteristics of jobs and occupational careers. The most notable examples of such life history studies have been done in the 1970s in the US, Norway, and Poland, from 1980 onwards in Germany, and most recently also in the Netherlands and Sweden. Two comparative analyses from this tradition of research are of particular interest for the topic of this proposal: the studies of Allmendinger (1989) and studies done in the context of the CASMIN project. (See also Blossfeld and Shavit (eds.) 1993; Shavit and Müller (eds.) 1998.)

Allmendinger (1989) studies the effects of two specific aspects of educational systems – *stratification* and *standardisation* – on transition into employment and on patterns of associated work careers. Stratification refers to the extent of segmentation of the educational system into various tracks and their hierarchical organisation. Standardisation refers to the degree of comparability of specific educational qualifications within a given country in terms of the structure and content of curricula, examination standards as well as certification procedures. In countries like the USA both educational differentiation/stratification and national standardisation are low, while Germany is almost at the opposite extreme. Both dimensions contribute to the extent to which ET qualifications are used by employers as screening devices in selecting workers and allocating jobs to them. In her comparative study, based on life history data from Germany, Norway and the US, Allmendinger finds that stratification contributes to a closer link between the hierarchical levels of educational systems and various levels of work/occupational hierarchies, whereas standardisation contributes to early work career stability and less job search activity.

The main relevant contributions of the CASMIN project are its successful attempt to develop a unified conceptual framework and a classification schema for educational and vocational qualifications comparable for nine European countries with different educational systems, and its analyse of the relationships between such educational qualifications and occupational and class positions in the labour market (Müller et al. 1990; Müller and Karle 1993; Ishida, Müller and Ridge 1995). The

schema of educational qualifications is based on the twofold distinction between hierarchical levels of education on the one hand and the general (academic) or vocational nature of the qualification obtained on the other. While the empirical results indicate significant national similarities amongst the nations studied in the relationships between educational qualifications and labour market positions, they also show substantial national variations apparently due to specific national peculiarities of educational systems with their different historical roots as well as specific State policy interventions (particularly in the two east European countries analysed). The analyses also show the varying roles that education plays in intergenerational social mobility in the various countries.

An even more recent study in that research tradition (Müller and Shavit 1998) shows how varying national ET systems shape occupational attainment. In a comparative study of 13 European and other countries they find considerable between-country variation in the patterns of associations between educational qualifications and labour market outcomes. On the one hand, the strength of the association between educational qualification and occupational destinations appears to be clearly stronger in countries with higher degrees of stratification and vocational specificity in the ET system. On the other hand, the association appears to be weaker in countries with more general educational systems and larger proportions of the youth cohort achieving tertiary qualifications. While the study marks a significant advance the authors, however, point to several of its limitations. Its design is based on 'side by side' comparisons rather than on integrated and fully comparable data sets. It is somewhat limited in its analyses of the school to work transition process, being cross-sectional in nature, and labour market outcomes are measured mainly in terms of first stable jobs. The study is also limited in its coverage of important variables in the school to work transition process leading to stable employment.

While research discussed so far mainly attempts to elaborate and explain similarities and differences between countries in *objective patterns* of ET-LM relationships, a few comparative studies have also addressed the varying *subjective* experiences and motivations of individuals in their transitions from school to work in various institutional and societal context. Although the empirical base using this biographical approach is still very limited a number of studies compare school to work transitions in England and Germany (Bynner and Roberts 1991; Evans and Heinz 1994; Roberts, Clark and Wallace 1994) and another study compares Canada and the United Kingdom (Ashton 1988; Ashton, Green and Lowe 1993). The evidence shows how significantly individual perceptions and people's life histories are affected by the different institutional arrangements and societal conditions which structure this crucial transition in different societies.

The main conclusions, therefore, one can draw from available studies is that the nature of both ET and LM systems, as well as the nature of the link between them, varies across European countries. In addition, it is clear that these national institutional differences have significant effects on socioeconomic inequalities in educational achievements, on labour market outcomes and on individual life course trajectories. The following appear to be the most important dimensions of national variation in these respects.

2.1 The degree of institutional standardisation of ET systems

National ET systems vary in the extent to which centralised and standardised national curricula and examination systems exist, or are 'quality controlled'; and are then used for selection/progression purposes for further education or for labour market entry. In some countries (e.g., Ireland), both curricula and examination are nationally standardised, and a pronounced emphasis is placed on educational level and on grades achieved in selection for third level education and in access to paid employment (Breen, Hannan and O'Leary 1995). In other countries (such as the United States), curricula and exams are not nationally standardised at second level, grades are awarded on a school or district basis and are therefore much less relevant in

1105

selection for further education or subsequent labour market chances (see Rosenbaum and Kariya 1991). It should be noted that the different levels of the ET system within a country may differ from each other in these respects. For example, second level education may be relatively unstandardised while third level education may be highly standardised.

2.2 The extent and nature of differentiation within ET systems

Differentiation within ET systems concern

a) the extent of division between general and vocational education, and the age and degree of selection into such different tracks/streams;

b) the extent of formal differentiation or grading of educational achievement outcomes – at each stage/level of education; the degree of hierarchical ranking of educational achievement and the nature and degree of selection for progression to higher stages.

The degree of differentiation between academic and vocational 'tracks', courses or routes varies widely across countries (see Allmendinger 1989). The German and Dutch systems of education/training, for example, are highly differentiated institutionally with parents/pupils choosing from the age of 11 onwards what type of school and educational path is to be followed. In contrast, the Irish and Scottish systems are much more general and comprehensive, with relatively weak curricular tracking at second level (particularly lower second level), although pupils may specialise to some degree in particular types of subjects (see Hannan et al. 1993). One of the objectives of the proposed research will be to examine the extent to which such curricular specialisations in the latter countries – such as in vocational/technical subjects – have any equivalent LM effects which correspond to the strongly differentiated Dutch and German systems. These national institutional variations have obvious implications for access to appropriate vocational training and for the degree of matching ('content congruence') between type of training and type of occupation subsequently achieved.

The relative degree of hierarchical stratification of levels of educational achievement, or the relative significance of levels of education achieved versus other aspects of educational achievement, appears to be more significant in non-differentiated systems such as in the Irish case; though in all systems 'level of education' achieved is expected to be one of the most important variables in labour market integration. Related to such hierarchical ordering of achievements is the extent to which grades achieved in examinations are elaborated (and are used in selection) – varying from minimal 'pass'/'fail' distinctions to A to D, E, F distinctions in each subject in all examinations in Ireland and Scotland (see Breen et al. 1995).

These different aspects of differentiation vary across EU countries – with maximal influence of vocational/general differentiation in the dual system countries and the Netherlands, while in the Irish and to a lesser extent the British and French cases the importance of both level of education and grades achieved in examinations are likely to be far more important in educational progression decisions and in selection for employment. These macro-level characteristics of ET systems are likely not only to affect the educational progression decisions of students and their parents but the nature of the whole ET-employment relationship.

The research will therefore pay particular attention to micro-level variables which reflect three aspects of educational differentiation: the highest stage/level of education achieved, educational/vocational track or degree of specialisation involved, and curricular level taken and grades achieved in examinations.

2.3 The links between ET and LM systems

Employers' use of level and type of ET qualifications in employment decisions vary across countries and, within countries, between sectors and occupations. Employers' evaluations of ET outputs impact on labour market entrants in two ways: first, in opportunities to obtain employment and, second, in the nature

and level of the job obtained: whether regular or temporary, full-time or part-time, occupational status and level of pay. The nature of the link between ET and LM entry can vary substantially: from situations of complete isolation, or 'decoupling' of the ET system from the LM system (in 'liberal and open' market economies) to one where both systems are highly interconnected. Drawing on a typology developed by Hannan, Raffe and Smyth, (1996) and presented in Figure 1, we can conceptualise these links as follows:

a) *strong and direct, shared interlink:* Where employers and schools/trainers are jointly involved in the provision and delivery of training for young people, and where both employers and ET providers jointly agree on education/training requirements for specified occupations. This pattern is particularly evident in the German-speaking countries and Denmark where there is strong 'content' and 'level congruence' between educational outputs and labour market intake (see Konietzka and Solga 1995);

b) *collinear linkage:* Here a substantial occupational labour market exists, training for specific occupational positions takes place in second-level schools, but there is little or no joint delivery of training for young people moving from school to the labour force. In the Netherlands, for example, over 1 000 detailed occupational categories, and over 120 occupational groups can be distinguished on the basis of the level and type of education required for entry. As a result, there is a highly developed occupational labour market served by a large and diversified set of education/training programmes provided on a full-time basis, with a moderate to high degree of congruence between course content and occupational position. Elements of such a collinear link exist in other systems. In most countries, for instance, there is a range of professional and higher technical positions where specified educational programmes at third level are required for entry;

c) *no direct link but strong market signals from schools:* Although employers are not directly involved in schooling or training, school achievement outcomes (examinations and qualifications) are publicly certified and used by employers in making recruitment decisions. Education systems are highly standardised but tend to be less differentiated in terms of school type or curricular tracking. There is a high degree of 'level congruence' between educational outputs and labour market outcomes, but little regulated 'content congruence'. In addition to 'levels', examination grades may be widely used in access to employment (see Breen, Hannan and O'Leary 1995). Such reliable measurements of 'general human capital' are, not unexpectedly, widely used in employment decisions. With the exception of the American and Canadian second-level systems, most of the English-speaking countries fall into this category, as does France and many of the Scandinavian countries;.

d) *school placement function:* a somewhat stronger version of (c) exists in countries like Japan, where besides open market 'reading' and matching of educational outputs to job offers, employers may be directly linked to schools by the school guidance service effectively acting as job placement officers in the employment system. This arrangement may be supported by, and officially acting in place of, the State employment service, as in Japan (Nakajima 1990; Rosenbaum and Kariya 1991);

e) *no direct link and weak market signals:* the USA is the exemplar here. There is no national standardisation of the educational system at first or second level, and second-level education tends to be comprehensive and relatively undifferentiated. There also tends to be limited post-school training of those high school graduates or dropouts who do not go on to third level, compared to Germany for instance (Schupp et al. 1994). On the other hand, a much higher proportion of the cohort complete upper second level education and go on to third-level (or other further) education in the USA and Canada; and the third-level systems there appear to be much more open

Figure 1: A typology of education/training systems and labour market links: cross-classifying by level of standardisation, differentiation and link

School-work link	Degree of standardisation of ET system			
	High		Low	
	Degree of differentiation of ET system			
	High	Low	High	Low
Strong and direct link (dual system)	Germany Austria Switzerland Denmark			
Collinear link (diff. ET system linked to OLM)	Netherlands			
Decoupled and more general or comprehensive ET system but with strong market signals		United Kingdom France Sweden	Ireland	
Decoupled school but with strong market signals and strong placement function			Japan	
Decoupled with weak market signals				Canada USA

Source: Hannan, Raffe and Smyth 1996.

and flexible in terms of part-time and 'second chance' participation than is true for Germany, the UK (see Ashton et. al. 1993) or for Japan (Nakajima 1990). In these cases, there appears to be both weak 'content congruence' and weak 'level congruence', though high school graduates tend to be at some advantage in relation to school drop-outs, and third-level graduates have clear advantages over high school graduates (Rosenbaum and Kariya 1991).

Using the above three dimensions of national educational systems – standardisation, differentiation and ET/LM links – and crudely dichotomising each one we can derive the following typology of national ET systems.

As indicated there appear to be few differences between European countries in the degree of standardisation of their ET systems at second level – at least relative to the United States. Although substantial differences do exist in how this is achieved and the extent to which it is centralised, for this initial purpose we can regard them as standardised. The dual system countries are highly standardised and differentiated, with strong and highly institutionalised relationships between ET systems and employers, etc. – particularly through the apprenticeship system. At the other extreme is the American system – relatively unstandardised, undifferentiated and with little if any institutionalised link between the ET and the employment systems. Most north and western European countries fit within the standardised and moderately to lowly differentiated box – though within this there are substantial differences in the extent of differentiation – particularly at up-

1108

per second level, and also in the relative importance of apprenticeship/'alternance' arrangements in vocational training and labour market integration. The importance of these institutionalised differences between national systems in Europe will be explored below in the section on hypotheses.

Aside from such national ET system differences ET and LM relationships are also affected by labour market – particularly youth – characteristics.

2.4 Labour market contexts and employment decisions

The extent of differences between the adult and youth labour markets varies across countries. In some countries, the distinctions is more marked with young people disproportionately concentrated in particular occupations, industries or types of firms. Points of entry into particular occupations or internal labour markets can be aged-based with certain segments disproportionately filled by younger workers (Ashton 1988; Ashton, Maguire and Spilsbury 1990). In other systems such 'youth jobs' segmentation is very limited. Segmentation can occur along a number of dimensions:

The main axes of segmentation are in terms of occupation, industry, firm size. These dimensions vary both within and between countries. Earlier conceptualisations of labour market segmentation posited a dualistic division between a primary sector (with higher paying and more secure positions) and a secondary sector (with relatively low paid unstable jobs) (see for example, Doeringer and Piore 1971; Averitt 1968). More recent approaches have moved away from this ideal type to emphasise the complexity of labour market segmentation (see, for example, Rubery and Wilkinson 1994). The approach adopted in our study draws upon these more sophisticated accounts, focusing on the diversity of labour market structures rather than positing a dualistic division.

The relative balance between occupational (OLMs) and internal labour markets (ILMs) is an important dimension of labour market structure which also varies across societies (see, for example, Marsden and Ryan 1990). Occupational labour markets (OLMs) refer to labour market sectors where jobs are clearly defined in terms of content and have high levels of consistency across firms and industries. Workers in OLMs usually have educational qualifications or skills that are transferable from one employer to another (see Edwards 1979). In contrast, in internal labour markets (ILMs) only lower grade jobs are usually filled from outside the firm with mobility into most higher grade positions taking place after a period of training. Training tends to be firm-specific, taking place on-the-job, and consequently skills are not generally transferable to other firms (see Doeringer and Piore 1971). Occupational and internal labour markets may coexist within the same national system but the relative balance between the two forms varies between countries. OLMs tend to be more prevalent in Germany and the Netherlands and less prevalent in France, Italy and Ireland; Britain occupies an intermediate position, with considerable variation across sectors, but with a general decline in OLMs (Maurice, Sellier and Silvestre 1982; Marsden and Ryan 1990). However, even in countries where ILMs are prevalent, occupational labour markets tend to operate for more desirable LM positions, in particular professional employment.

The relative significance of occupational *and* internal labour markets is not only likely to be closely related to education/training systems but it is also likely to impact on the processes through which school leavers become integrated into stable employment. In a general and comprehensively oriented ET system and in an ILM-dominated labour market structure, new entrants to the labour market mainly learn relevant skills on-the-job. They are therefore more likely to enter the labour market at lower levels of occupational achievement, and are at a competitive disadvantage compared to insiders for higher responsibility posts, etc. In OLM systems a high proportion of entrants are more likely to find work which fits their occupationally specific qualifications. One would, therefore, expect that in the former case it is more difficult for school leavers – particularly the more poorly

1169

qualified – to find stable employment: more job search time, more job shifting, less secure jobs; with unemployment more concentrated among new entrants (Esping-Andersen 1993). In these systems, the formation of a disadvantaged youth labour market segment becomes more likely, in particular under conditions in which demand for labour is low.

The youth labour supply is, therefore, differentiated by varying levels and types of educational and training experiences and qualifications, and the different social backgrounds of entrants. It is the way in which employers take account of these initial differences between potential young workers in making employment decisions that transforms these differences into enduring labour market opportunities. Thus, a crucial element in analysing the nature of labour market differentiation is to determine the factors used by employers in recruitment (and subsequent promotion) decisions to different labour market positions. In our analyses we pay particular attention to two general aspects of new job applicants' characteristics: their educational/training characteristics, as already discussed; and their ascribed, social background characteristics – particularly gender and social class.

3. Methods: design of study

An ideal research design would involve both stock analyses of labour force surveys – to study the ET and labour market relationships; and flow analyses of school to work transition surveys, as well as longer, panel surveys of early labour market histories. Existing labour force surveys contain a lot of information on current labour force status and more limited information on educational/training achievements; but very little information on educational/training or labour market history. Nevertheless they provide the best sources of uniform information on education/training and labour market relationships in all EU countries. There are no equivalent data sources on the flows from education/training into the labour market across EU countries, although a small number of EU countries carry out regular surveys of large samples of young people who have left the educational system and entered the labour market, supplemented by follow-up surveys of their subsequent labour market and education/training histories. Ideally one would like such surveys to have much the same design and to have a large set of comparably defined variables/measurements for all countries of interest. However, data sources of this nature do not yet exist.

The labour force surveys (LFS) provide broadly comparable information on education/training and labour market characteristics across all EU countries. As such, the LFS is extremely useful in assessing the relationship between ET and LM systems across Europe. However, its usefulness as a data source for analysing transition behaviour is limited in a number of respects. First, most of the conventional labour force surveys have only limited information on education and training characteristics, and the categories used may also obscure important cross-national variations in education/training and labour market integration systems. Second, many such surveys have little or no information on the first jobs of young entrants to the labour market or subsequent detailed work histories. Third, because the sample covers all age groups, this may result in a very small number of labour market entrants in any given year. This makes it impossible to analyse country differences in the nature of the initial transition process. Fourth, these surveys rarely have information on the social background of respondents, thus obscuring variation between different groups of young people in the nature of the transition process. However, the national coverage of these surveys, their large sample sizes and comparable variable definitions mean that detailed comparative analyses can be carried out on the relationships between educational/training qualifications and current labour market statuses for different age/sex groupings in all EU countries. This kind of comparative analysis allows us to ground our SLS flow analyses of five EU countries within the wider EU system.

Surveys of school (or third-level) leavers (SLS) have much more potential for the analysis of

1110

1110

school to work transitions. These surveys allow us to examine in detail the relationship between social background, education/training characteristics and early labour market experience. This information can be supplemented by analyses of youth cohort or follow-up surveys, which give a more complete picture of the impact of education/training on longer periods of labour market experience. Since countries vary significantly in the pace, timing and patterns of the transition process, it is important to use longitudinal data to analyse the complexity of life histories among young people. In addition, changes in education/training policy and secular shifts in the economy will result in differences between cohorts of young people in their employment chances, access to further education and training, and so on. The school leavers' surveys are available for several points in time, allowing us to study the differences between cohorts of young people. However, such regular national school leavers' surveys are only carried out in a limited number of countries: France, the Netherlands, Ireland, the United Kingdom (Scotland), Sweden.

Although these surveys have not been designed to be comparable, they have substantial similarities. The five surveys comprise a year-group survey (Sweden), a labour market entrants' survey (France) and three follow-up school leavers' surveys – Ireland, Scotland and the Netherlands. Four of these surveys cover a cross-section of young people; the fifth (French) survey is targeted on leavers from specific courses. The surveys vary in the number and timing of follow-ups, and in the data they collect. For example, the most recent comparable surveys cover:

a) Scotland: young people who left 'general' secondary education in 1993-94 (although some may have taken up various mixtures of general and vocational courses), surveyed in the spring of 1995. Vocational courses (FE colleges), apprenticeships and training schemes, as well as higher education, all count as destinations;

b) Ireland: young people who left secondary education in 1995-96, surveyed in autumn 1997. This includes those who left Junior or Leaving Certificate (including vocational and applied) and post-leaving certificate courses in 1995-96. Other (post-secondary) vocational courses count as destinations, together with apprenticeships, training schemes and third level education;

c) France: young people who left general or vocational full-time (excluding general *baccalaureat* and agricultural courses) or apprenticeships in 1993-94. The survey was conducted in spring 1997 but the destinations in the data set refer to autumn 1996. Unlike the other surveys, the French (CEREQ) survey is based on labour market entry groups and does not include those who continued in the education system – for example, at university (see Becker et al. 1999);

d) The Netherlands: young people who left secondary education (including MBO) courses in 1995-96, surveyed in autumn 1997. The data set excludes those who reentered another form of secondary education (e.g. those who entered MBO). Apprenticeships count as destinations, together with higher education;

e) Sweden: young people who completed lower-secondary education in 1993, surveyed in spring 1997. Since most upper-secondary courses lasted two or three years, most sample members who entered upper-secondary education had left by the time of the survey, but a few were still there.

Therefore, while each survey covers a sample of young people in a given period after making a transition, the length of this period and, more importantly, the destination definitions of the transition, vary across countries. However, each survey effectively covers the school-to-work transition process – either prospectively or retrospectively – and therefore provide relatively sound comparable databases.

An inherent defect of the proposed study will be that its design neglects the direct observation of the behaviour of one crucial group of actors decisively influencing the ET-LM rela-

tionship on the side of labour demand: the strategies and selection preferences of employers in their personnel recruitment and job allocation decisions, which – as we have outlined above – are very likely to vary across countries. We recognise the importance of such information on the demand side of the labour market, and we will draw on research done by others on these issues insofar as this is possible.

The research maximises the potential of the labour force survey to ground our specific analysis in the broader European context, and uses the school leavers' surveys in the five countries to develop a conceptual and methodological framework for analysing youth transitions across Europe. One aspired objective of our research is to help move the existing national surveys towards greater comparability, as well as to help the development of such surveys in other EU countries initiating surveys of school leavers – for example, in Belgium and Portugal.

This research develops upon a substantial body of comparative research already carried out by the project partners. The network made an exploratory attempt to construct a common dataset, using a small number of variables for the Dutch, Irish and Scottish data on school leavers at one point in time (1991) (Hannan et al. 1993). In addition, a common dataset covering a range of variables has been developed for the Irish and Scottish surveys over the period 1980 to 1991 (Smyth and Surridge 1995; 1996). Two of the project partners (CES and ESRI) have carried out research for OECD on developing a conceptual framework for examining school to work transitions and have been involved in planning meetings for the OECD's current *Thematic review on transitions from initial education to working life* (see Hannan, Raffe and Smyth 1996). In addition four of the project partners (CES, Edinburgh; ESRI, Dublin; DESAN, Amsterdam; CEREQ, Marseilles) have completed a four nation comparative study on early school leaving for DG22 under the Leonardo *surveys and analysis* programme (1996-98.). This comparative research is based on a four-nation comparative dataset of school leavers' surveys in France, Ireland, the Netherlands and Scotland. Some results from this comparative study are given at the end of this paper.

The following figure broadly indicates the type of information which will be used from the school leavers' surveys.

Data sources: School leavers' surveys for France, Ireland, Netherlands, Scotland, Sweden. Integration of three to five year follow-up surveys where available.
Sample characteristics: National samples of secondary level school system leavers.
Education and training characteristics: Level achieved; type of school/curriculum; general versus vocational education; vocational speciality; examination outcomes.
Individual and background characteristics: Age, gender, age of completion of education; parental socio-economic status and education for some national surveys.
Labour market entry characteristics: Labour force characteristics for first year in the labour market. Work careers available in follow-up surveys for three to six years in the labour force for France, Ireland and Sweden.
Labour market 'success': Employment status; type of job (full or part-time); occupation; industry, wages.
Periods covered: 1980 onwards for Ireland, Scotland; 1988 onwards for the Netherlands. Current data for Sweden and France.
Other outcomes: Household status; marital status; migration characteristics, etc.

Country selection

The selection of countries included in the study is partly based on the fact that these are the main countries that carry out school leavers' surveys on a regular basis and that researchers from these countries have been cooperating to explore their potential for comparative analyses. (Pottier 1993; Raffe 1993; Hannan et al. 1993; Smyth and Surridge 1995; 1996; Hannan, Raffe and Smyth 1996). The countries included do not represent all

the important dimensions of variation in ET and LM links in Europe but do differ substantially in these respects.

Ireland is perhaps at one extreme of the continuum where the second-level educational system is dominated by the vertically organised 'general education model', with a low level of horizontal, curricular/examination differentiation. Most schools are privately owned and managed, though highly State regulated. The curriculum and examination system is highly centralised and standardised (by State regulation), with State examination results being the main 'market signals'. The development of more general rather than specific (vocational) human capital is emphasised. The second level ET system is neither institutionally linked to employers nor formally differentiated to cater for occupational labour markets, although there has been some recent expansion of vocational training courses at upper second level. Although there are practically no institutional links between schools and labour markets, third level entry requirements and employment selection procedures pay particular attention both to level of examination taken as to grades in such examinations (Breen et al. 1995), with apparently little attention to vocationally specific specialisations, except in a limited range of craft and professional occupations.

In *Scotland* secondary schools are State-run and comprehensive (except for a very small private sector). The curriculum is general and follows national guidelines. There are vocational elements in the curriculum, but they are integrated into the general curriculum. There is no occupational specialisation or tracking as in some continental countries. Schools may have links with employers – for example, in the provision of 'work experience' which all secondary pupils are expected to obtain – but these tend to support the broadly general objectives of schools. This relative absence of formal curricular differentiation means that in Scottish, as in Irish, schools the vertical dimension is dominant. Progression either into further education or into the labour market is strongly influenced by the level of attainment in 'academic' examinations taken at the ages of 16, 17 and 18. In the past, the main exception was that younger (16-year old) school leavers sometimes had an advantage compared to older school leavers, because of their opportunity to enter age-restricted apprenticeships or training opportunities. These opportunities have declined, and a majority of young people now stay at school beyond 16.

In contrast to Ireland, the Scottish system offers vocational alternatives to school at the upper-secondary level. Further education (FE) colleges provide full-time courses, typically in broad occupational areas or in 'transferable' skill areas such as catering or business and administration. Many younger school leavers enter work-based training programmes (apprenticeships or youth training programmes known as 'skillseekers') which may include part-time studying at FE colleges. This training is typically occupation- (or employer-) specific. It is based on standards which are, in principle, 'employer-led'. Within this work-based sector 'horizontal' differentiation is more important (Raffe 1992). As in the rest of the UK, the labour market in Scotland is weakly regulated and structurally diverse; it is not easily classified in terms of ILMs or OLMs, although some studies (such as Marsden and Ryan 1990) characterise the UK in terms of decaying OLMs.

Traditionally, the educational system in *France* was strongly dominated by schools of general orientation with little formal vocational training. Since World War II, France has developed a vocational training system at all levels, which is closely connected to the general education system: training of workers and employees at the end of the first cycle (CAP, BEP), technical baccalaureate, then further training as technicians (BTS, DUT). Today more than 40% of school leavers have a technical or vocational diploma. Whereas general education is of greater value within the education system, technical and vocational diplomas have better recognition on the labour market. In large French firms, the predominance of internal labour markets has led to poor qualification/occupational 'matching' at entry level and to a late articulation between qualifications and job classifications. However, the current employment crisis has

115

mostly penalised young people and led public authorities to promote measures developing sequences of school-based and in-company training courses alternately (e.g. *BAC* professional, apprenticeships extended to technical and engineering training, and a range of work/school based training arrangements).

With the growing shortage of jobs, decision-makers adopted a certain number of measures supporting labour-market entry. These interventions are focused strongly on the interface between the educational system and the labour market which has two important consequences. The first one is that the very existence and content of these measures, often based on 'alternance' models, reveals apparent deficiencies in the existing educational and training system. The second consequence is that some of these programmes designed to assist labour-market entry, based on alternance training approaches, have had feedback effects on initial education/training, -- encouraging further reorganisation according to the new public model. All processes at work in France attest to a significant change in the conception of the aims of the educational system, now vested with a double mission: the traditional one of transmitting knowledge, and the more recent one of fulfilling a broader social function through the development of more vocationally relevant and effective education/training for labour-market entry, especially amongst young people with particular difficulties.

In some respects, *the Netherlands* is similar to Germany. The Dutch educational system is highly differentiated and standardised. It also has a strong vocational component, which at the same time is strongly segmented horizontally in many vocational specialities and a similar degree of stratification of general education. In contrast to Germany, however, the vocational training system of the Netherlands is school-based, has a low degree of overlap with workplaces and also much lower employer involvement. Besides school-based vocational training, it also has a system of apprenticeship, although small in comparison to Germany. This has, of course, consequences for the structure of the labour market. Recent research shows that ILMs and OLMs have almost equal shares in the Dutch economy (Dekker, de Grip and Heijke 1994).

These characterisations of countries will probably need revision with further analyses. At this stage, however, they may be sufficient to indicate the variation across the countries in the main variables and outcomes of interest.

4. Progress to date: construction of the comparative databases.

Four main issues arose in constructing a comparative database from five national school leavers' surveys:

a) definition of populations and samples;

b) timing of interviews – in terms of years in which school leavers were sampled and in terms of post-school labour market exposure;

c) variable definitions and specifications; and

d) overall design of database.

Population / samples. The population aimed at is all full-time initial second level system leavers – rather than school leavers. The concept of second level system leavers is used because of possible confusion where some potential respondents leave one school or school type, and enter another second level one – particularly in highly differentiated systems such as the Netherlands where national surveys made this possible. Such 'reentry' school leavers are excluded from the comparatively defined population/sample. They are included only when they subsequently exit the total system. We therefore aimed only to include those who leave the full-time second level system for the first time ('initial' leavers). Those who leave but who continue in post-school, part-time education or training are, however, included – this generally 'mixed status' being regarded as a 'post-school' destination.

The selection of samples for the national surveys may be from national registration lists or through a process of initially sampling schools/systems and then 'school leavers'

within these schools. In most cases the sample is designed to cover all those who left the full-time second level system in the preceding academic year – i.e. those sampled and interviewed in May 1998 would have completed their initial full-time second level education in the academic year1996/97. Most are then in a 'post-school' status (usually on the labour market or in further education or training) for at least nine months to a year. Interviews at that point are designed to measure respondents' 'post-school' education, training and labour market outcomes and experiences subsequent to leaving school.

For the most recently surveyed, the samples include all those who left (completed course or left during course) their initial full-time (second level) education in the 1993/94 session in France and Scotland, and the 1995/96 educational session in Ireland and the Netherlands. The samples of respondents selected were interviewed between one year to one and a half years subsequent to their completion of second level education. The surveys were carried out by personal interviews in Ireland, by mailed questionnaires in France and Scotland and mostly by telephone interviews in the Netherlands.

4.1 Variable list and definitions in common database

Essentially we need as much detailed comparative information as possible on *five* areas;

a) the social background of school leavers;
b) their educational/training experiences and achievements/qualifications;
c) the nature and extent of post-school education and training;
d) their labour market experiences and outcomes; and
e) their current household formation patterns and migration experience.

There are ca.100 comparatively defined variables in the combined datasets (see Appendix):

a) the social background of school leavers (about 15 variables);
b) *household status* and, to a limited extent, migration status (about 5 variables);
c) *educational background/achievement* (about 12 variables);
d) post-school education, training achieved (about 26 variables);
e) current employment status characteristics (about 20 variables);
f) labour force history characteristics since leaving full-time education (about 20 variables). See Appendix for details of common variables.

Clarifying these definitions and concepts took some time and intensive discussion; and in coming to common definitions we lost some important information. For instance, because the Irish and Scottish surveys covered only school leavers' defined in a conventional way, all post-school youth training and further education (in, e.g. further education colleges) is defined as a 'destination' for school leavers and, since a significant proportion of these are still in training or further education at the time of the interview (a year later) we have no information on their subsequent labour market outcomes. One way to correct this is to follow up such initial school leavers for a number of years (five or six) to measure such long-term outcomes. This is done periodically in a number of countries (UK – including Scotland, France, Ireland, the Netherlands and Sweden).

National surveys varied significantly in the nature and extent of social background data gathered. While the usual socio-demographic data (age, sex, age of completion of schooling) is present, there is a lot of missing data on social class of origin (for only two countries), ethnicity (for one country only), educational level of parents (two countries), employment status of parents (three countries). The more complex, multivariate analyses using these variables cannot, therefore, be as comprehensive as we would have wished. One of the main aims of future collaboration would be to increase the comprehensiveness and comparability of variables covered.

Educational experiences and achievements are generally well covered in most surveys: type of school and curricular track, highest level of

Table 1: Time series of SLS surveys in Scotland, Ireland and the Netherlands

Year of Survey	Scotland	Ireland	The Netherlands
1979/80	a (1979)	a(1980)	-
1985	a	a	-
1989	a	a	a
1993	a	a	a
(Current) 1995/97	a (1995)	a(1997)	a(1997)

education achieved (CASMIN and ISCED measures); type of qualification achieved – vocational/technical or academic/general; grades/awards achieved in examinations and/or detailed educational achievement levels – i.e. from incomplete lower second level, 'failed' lower second level, 'passed' lower second level examination, to 'passed' or got 'honours' in upper second level examination. (See Appendix for details of variables covered by country).

4.1.1 Post-second level education and training

Extent and nature of participation, type and level of course; full-time or part-time, degree of vocational/occupational specificity of course, length of course, whether successfully completed, type and level of qualification achieved, etc. Extent to which education involved work experience and nature of work experience; apprenticeship training; extent and nature of involvement in 'mixed statuses' – (work and education). There is significant variation in variable coverage by country.

4.1.2 Labour market outcomes

Labour market entry outcomes: initial and current employment status. Extent of employment/unemployment; characteristics of jobs – occupation, industry, earnings, etc.; location of first and current job, etc. Details of the combined variable list are in the Appendix.

4.2 Time series

The most extensive information is available for the current (1993/94 to 1996/97) SLS databases. France (CEREQ) has carried out school leavers' surveys since the early and mid 1970s. Most of these, however, are only partial samples of the population of leavers – the French samples are excluded from the time series. For Ireland and Scotland such national school leavers' surveys have been carried out since 1970/71 in Scotland and 1980 in Ireland – and in both cases sampling is national and covers all second level leavers. The first national sample for the Netherlands is available from 1988 only. The Dutch sample is very large, is nationwide and comprehensive but is not initially selected as a national sample. Since it, however, covers all institutional distinctions, all regions and all levels of second level leavers it can be reweighted to approximate a national sample. The following table indicates the time series being used.

As already indicated the current, late 1990s, comparative data set has been constructed. The time series was constructed in September 1999, and analyses have started on the current database.

4.3 Construction of comparative labour force survey (LFS) datasets (coordinated by MZES, Mannheim)

Two data sources are used for LFS analyses: the EU community LFS through data requests to Eurostat in Luxembourg, and national micro data sets for Germany and the SLS project countries (France, Ireland, the Netherlands, United Kingdom, SW) and some other EU countries (Denmark, Spain, Italy, Austria and Portugal). LFS surveys for two time points will be used for most of these countries (from early 1980s and mid-1990s). Both cross-sectional stock analyses and some restricted synthetic 'flow analyses' will be carried out – using expected minimum age of completion of highest level of education achieved, and consequent estimate of amount

of time in the labour force. The European Community LFS (CLFS) provides a common database for the most important labour force characteristics for all EU countries. It is limited in its coverage of educational and training variables, and has very limited retrospective data. Access to individual level micro data is only by request to Eurostat. The individual national labour force surveys generally have much more information – though variable coverage and cross-national comparability of variables differs widely. In most cases, however, anonymised micro data sets are available from national census offices. In the CATEWE project, these micro data sets are now available at MZES, Mannheim – with the full set of comparable variable specifications to be completed shortly. Obviously much more complex analyses can be carried out on such a comparative European micro data set.

4.4 Progress on analyses of LFS and SLS surveys

Substantial progress has already (June 1999) been made in the analyses of the *CLFS,* and in both assembling and aligning the country level LFS micro data sets. Analyses of the CLFS has already commenced and – papers are being prepared for the September transition in youth (TIY) conference in September 1999 in Oslo. First drafts of five papers reporting analyses have already been discussed and critiqued (June 1999):

a) changes in educational participation and qualifications over time in EU countries;

b) national differences in youth labour markets and in transition trajectories;

c) 'gradualism' in labour market entry: double statuses in transitions;

d) labour market segmentation and the structure of youth employment in EU countries;

e) educational achievement and initial labour market outcomes: national and institutional contextual effects.

Reanalyses and redrafts of these papers were prepared and second and more comprehensive drafts were given at the European TIY[4] conference in September 1999. It is hoped to publish the contents of these papers in journal articles as soon as possible thereafter.[5] These analyses of the European Community LFS (CLFS), dealing as they do with all EU countries, will set the wider context for both the more detailed analyses possible with the individual country LFS micro data sets as well as the five country SLS data analyses. These later micro data LFS studies started in late 1999 and are to be completed by mid-2000. The analyses of the current SLS has already started and analyses of the time series and comparative follow-up surveys started in September 1999.

4.5 Analyses of school leavers surveys

The four country comparative database (France, Ireland, the Netherlands, Scotland) of current (1995-97) school leavers surveys was constructed by the end of March 1999. Swedish data was added in August 1999.

Construction of the time series data sets has started but will not be completed until end of June 1999. The construction of the French-Irish six year follow-up comparative data set has also started but will not be completed until September 1999.[6]

Analyses of the current four-nation data set started in May 1999. A division of labour on analyses has been agreed, with first drafts of papers reporting results to be completed by

[4] The European network on Transitions in Youth (TIY) has been holding annual European research workshops/conferences on education/work relationships and transitions since 1993. Initially funded by the European Science Foundation (1994-96) the subsequent workshops have been partly supported by national funding in Ireland, Scotland and in 1999 in Norway. Copies of workshop papers up to 1996 are available from the ESF in Strasbourg, from 1996 from CEREQ Marseilles, from 1997 from the ESRI Dublin, from the CES, University of Edinburgh in 1998.

[5] Copies of papers now available as CATEWE Working Papers, from Mannheimer Zentrum für Europäische Sozialforschung (MZES), University of Mannheim, Postfach 10-34-62, D-68131 Mannheim.

[6] This paper refers to the project results available until mid-1999.

September 1st in time for the September TIY international workshop:

i) Comparative analyses of the relationships between initial educational/training achievements and 'post-school' educational and training outcomes;
ii) Comparative analyses of the relationship between educational/training achievements and post-school labour market outcomes;
iii) Comparative analyses of the relationships between initial educational/training outcomes, initial labour market integration processes and the extent to which State training/employment schemes mediate difficulties in transition;
iv) Comparative analyses of gender and social class inequalities in educational achievements and in education-to-work transitions;
v) Comparative analyses of both youth/adult and general labour market segmentation processes in the five countries;
vi) Comparative analyses of the nature and extent of labour market exclusionary processes amongst the least qualified.

As of mid 1999 there were no results from these analyses. But the papers were subsequently revised and are now available as CATEWE working papers.[7]

One clear result, however, is the fact that it has proved possible to construct cross-nationally comparable microdatabases from both national labour force surveys and school leavers surveys. Although there are serious missing data problems for some important variables (particularly social background variables) in the school leavers' surveys this database is still a very rich one for research and policy purposes. The earlier Leonardo study, reporting analyses of a more restricted cross-national data set based on the same type of surveys, however, indicated some important policy relevant results and conclusions. Some of these will be discussed next.

[7] Available as a CATEWE working paper from the ESRI, 4 Burlington Rd., Dublin 4, April 2000.

5. Results and conclusions

Although there are as yet no results from our analyses of the CATEWE comparative databases some conclusions from our work on comparative database construction are important. In addition some results and conclusions from an earlier, though more restricted, comparative study of school to work transitions amongst early school leavers, under the Leonardo surveys and analyses programme, (1997-98, VTLMT[8]) appear very relevant.

Two comparative micro data sets on school to work transitions have been or are being constructed using existing national surveys. The first is based on national labour force surveys for most European countries. The Eurostat Community LFS data set is available only for a limited set of variables, and in any case is not directly accessible to the research community – although Eurostat has been very helpful in making detailed cross-tabulations available. The national data sets are generally much more comprehensive and, for most EU countries, are available as anonymised data sets to the research community. So a comparatively defined LFS data set is being set up for the majority of EU States. The initial work on the CLFS (Eurostat) database indicates not just the value of cross-sectional analyses of the existing variables, but also the value of constructing and using other more complex variables – for instance, in using expected ages of graduation and entry to the labour market in identifying recent (young) entrants to the labour market – to estimate differences in labour market outcomes for

[8] ***Vocational Training and Labour Market Transitions.*** This was a project funded under the Leonardo 'Surveys and Analyses' programme, DG22, 1996-98. Contract N° – IRL/96/1/10074/EA/III.2.a/FP1. Final report Dec. 1998. The research project was based on comparative analyses of school leavers surveys in France, Ireland, the Netherlands and Scotland – primarily focusing on the education–labour market relationship amongst those who left full-time education before completing upper second level. The project was coordinated by ESRI, Dublin in partnership with CES, University of Edinburgh; DESAN, Amsterdam; and CEREQ Marseilles.

young versus older labour market entrants. These analyses show clearly the underutilised value of the existing labour force surveys for research and policy analyses purposes.

The second main methodological finding is that the existing national school leavers' surveys carried out in five EU countries (France, Ireland, the Netherlands, United Kingdom (Scotland), Sweden) – and prospectively in Belgium (Flanders) and Portugal – provide a rich comparative database for studying the longitudinal/panel aspects of school to work transition processes in a range of EU countries. These mainly cover the post-school education/training and labour market history characteristics of school leavers for one to one and a half years after they complete their second level education. Combined with the cross-sectional LFS analyses of current status characteristics of individuals these detailed 'flow data' on educational and labour market history provide for very comprehensive analyses of school to work transitions across the European Union.

Although there are many sample and variable comparability problems arising from constructing a comparative database from such national surveys – with many 'missing data' gaps, for instance – both the process itself of constructing such a database and the initial raw results illustrate clearly the advantages of such approaches. In constructing comparatively defined, meaningful variables – which capture both the common and, as far as possible, the unique in each system – overarching concepts and variables need to respecified in ways that are not otherwise obvious. For instance the concept of 'level of education' does not always make clear whether the person reaching level 'x' has actually taken and 'passed' the relevant examination at that level. Equally, differences in the significance of different national ways of measuring educational achievement – whether, for instance, grades achieved in examinations, or 'levels' taken in courses/curricula are important/relevant – have to be dealt with in ways that are not always revealed in cross-national surveys where the lowest common denominator approach to variable definitions is often used.

Besides these comparative data construction issues, one of the main advantages of such cross-cultural (or cross-national institutional) studies is the classically stated advantage of additional insight into national characteristics gained from comparing one national system to another quite different one. By shedding normal ethnocentric conceptualisations engendered by national studies or even by limited comparisons with similar type systems, intensive comparative studies much more clearly reveal national differences. For instance, the overarching significance of 'grades achieved' in examinations in the Irish, and to a lesser extent in the Scottish system, in selection/progression to higher levels of education/training and into the labour market – and their apparent lesser significance in the Dutch or French systems – illustrate clear national system differences in educational assessment and selection. The relative significance of these different kinds of selection mechanisms becomes very obvious in any detailed comparisons – but they are very easy to miss in less detailed ones. The necessity to specify a wider range of social background, educational, training and labour market variables to capture the most relevant aspects of each national system, while at the same time trying to integrate these into an overarching, common set of concepts/measures is one of the main tasks of such detailed comparative analyses. Hopefully, these initial findings will show more insight and lead to a more comprehensive comparative analyses than would otherwise be the case.

The Leonardo VTLMT study – 1997-98

The earlier comparative European study of school to work transitions using school leavers surveys was funded under the DG22 Leonardo (Surveys and Analyses) programme (VTLMT[9] 1996 to 1998). The empirical analyses were based on a comparative data set based on school leavers' surveys in France (1995), Ireland, the Netherlands and Scotland (1993).

[9] *Vocational training and labour market transitions in Europe* – coordinated by ESRI, Dublin in partnership with CES, University of Edinburgh; DESAN, Amsterdam,; CEREQ, Marseilles.

1119

The main focus of the study was on the relationships between initial educational/training outcomes and qualifications amongst school leavers and subsequent, post-school, labour market and education/training outcomes. In this case the main interest was in 'early school leavers' or those who left the educational system with no or poor qualifications. The final results and conclusions are included in the final VTLMT report to DG22 in December 1998, and are to be published as separate journal articles.

Four main hypotheses guided the analyses:

1. gender and social class inequalities in the type and level of educational achievement are greater in the Netherlands – the country with the most differentiated and selective ET system (Blossfeld and Shavit 1993);

2. the educational qualification distinctions amongst 'early school leavers' (or, more technically, lower second level leavers) – in terms of examination grades or 'pass'/'fail' distinctions – will almost have the same effect on labour market entry as the distinction between lower and upper second level leavers (Breen, Hannan and O'Leary 1995);

3. controlling for educational level and grades achieved in examinations, it is expected that those specialising in vocational/technical curricular 'tracks' will have significant labour market advantages over those in general tracks (Shavit and Mueller 1998);

4. the labour market effects of educational failure (early 'dropout' or 'fail' in lower second level examinations) are expected to be greater in national systems with less differentiated ET systems and less 'occupationalised' labour markets; i.e. more serious in Ireland and less serious in the Netherlands.

Main results

While the proportion of those leaving school in Scotland with only a lower second level qualification or less (40%) were almost twice as high as in the other three countries, the extent of post- school education/training participation rates were much higher there – so reducing national differences considerably. Such post-school provision and participation for the most poorly qualified was lowest in Ireland – with less than one in four of early school leavers entering alternative education/training pathways compared to almost one in two for their Scottish counterparts. There are then substantial national differences in the provision for and participation in such post-school ET interventions.

Gender and class of origin differences in levels of educational achievement are much greater in Ireland than in the Netherlands or Scotland. Irish lower level leavers, particularly those without qualifications, are more likely to be male, working class and have parents that are unemployed. At least in terms of the first major educational transition therefore, our main hypothesis is not supported: the least differentiated system – though one with strong inter-school competitive effects (Smyth 1999) – is the most gender and class discriminatory. The Irish system is also the most highly unidimensionally stratified – a highly hierarchical general system. It appears as if the highly differentiated and early selective Dutch ET systems have both lower initial educational failure rates amongst the total school entry cohort, but also class and gender selectivity appears to be lower at that basic level. Of course in terms of type of education/training and in terms of later progressive transitions – such as to the completion of upper second level or entry to third level – these national differences may be reversed.

The four countries differ substantially in the level and quality of post-school 'corrective' ET and active labour market provision. Labour market entry (whether at work or looking for work) is most likely to be almost the only opportunity available in Ireland for those not going on to third level. There is a much more elaborated, State funded and better organised set of both ET and work-based training/employment scheme provision in Scotland. Employment chances are maximised in the Netherlands but alternatives to unemployment through apprenticeships and State training/

employment schemes are much richer. France equally, although with the lowest employment chances for early leavers, has the most elaborated and best funded system of post- school training. The extent and nature of State intervention in the labour market for early and poorly qualified school leavers is, therefore, one of the most variable aspects of school to work interventions.

What effect has examination performance on labour market access or access to more valuable post-school ET pathways? In fact 'passing'[10] lower second level examinations – so distinguishing between those who either left school before taking the examination or having 'failed' the examination and others who at least got a 'passing grade' in such lower second level examinations – has a significant positive effect on employment chances in all four countries; and in all except France on access to apprenticeships also. For other less valuable traineeships or post-school training/ employment schemes the effects are negative for Ireland only – a not unexpected result given that recruitment to these schemes is targeted on the more poorly qualified with the poorest employment histories in Ireland. What is significant here as in some other research (see Breen, Hannan and O'Leary 1995) is that level of performance in lower second level examinations is almost as important in labour market access as proceeding to upper second level, particularly amongst those with below average educational performance.

A State policy geared to maximising upper second level educational participation, without paying equal attention to improving the basic educational performance levels at primary and early post-primary levels, appears therefore to be a seriously mistaken one. There is little added value in keeping young people with poor performance histories in school up to 17 or 18 unless basic educational achievement levels significantly improve. Improving the basic educational and personal and social development skills of the lower performing 10 to 20% of the cohort at lower second level is a far more fundamental educational goal than just increasing the compulsory ages of attendance to 17 or 18. The second hypothesis is, therefore, strongly supported.

Are there effective alternatives to vocation/ technical tracks or post-school vocational training programmes – such as apprenticeships – in non-differentiated systems such as the Irish or British ones up to age 16 ? Recent research has corrected for earlier negative assessments of assignment to vocational/ technical 'tracks' within the more general and more comprehensive systems of the English-speaking countries – particularly for 'non-college' bound youth – (Shavit and Mueller 1998; Kerckhoff et al. 1998 Hannan and O'Riain 1996). Effectively these results indicate that although such vocational/technical 'tracking' may divert a significant proportion of working class children away from proceeding to upper second and into third level education (and so increase social class inequality at these higher levels) successfully completing such programmes does in most (though not all) cases increase access to skilled manual and service employment – or in escaping from the lower skilled and less secure sectors of the youth labour market. Our results strongly support the latter view. Such specialisation in second level, vocational/technical subjects significantly increases access to skilled manual occupations for males in all four countries– though it has no effect on employment access as such, controlling for the effects of most other relevant variables. Again this hypothesis is strongly supported, though for males only.

There is no evidence, however, that the relative effects of educational 'failure' – no qualifications or 'failed' qualifications – on employment chances are any higher in Ireland, though the extent to which this occurs is greater in Ireland and Scotland. The fourth hypothesis is not, therefore, supported, although this hypothesis is harder to test given

[10] 'passing' in this sense has a clear meaning in the French and Dutch systems; but in the Irish and Scottish systems has to be somewhat arbitrary – so the older definitions are used as in the Irish case where a minimum of five Ds in the junior certificate (and equivalent in the Scottish GCSE) examination is regarded as required to get a pass.

the various different interpretations of educational 'failure' in Ireland and Scotland versus France and the Netherlands.

The results of this initial study of early school leavers encourage optimism about the future results of the larger CATEWE project. Combining both LFS analyses of education/training and labour market relationships in all countries, with more detailed analyses of school-to-work transitions in a smaller number of countries – using both time series and longitudinal analyses – the project should yield valuable comparative European analyses of education/training and labour market relationships by the end of the year 2000.

1192

Bibliography

Affichard J., 1983. Nomenclatures de formation et pratiques de classement. *Formation – Emploi*, 4, Octobre-December, pp. 47-61.

Allmendinger J., 1989. Educational systems and labor market outcomes. *European Sociological Review*, 5, pp. 231-250.

Arum R., Shavit Y., 1995. Secondary vocational education and the transition from school to work. *Sociology of Education*, **68** (2), pp. 187-204.

Arum R., 1998. Invested Dollars or Diverted Dreams: The Effect of Resources on Vocational Students in Education. *Sociology of Education*. 71.2.

Ashton D., 1988. Sources of variation in labour market segmentation: A comparison of youth labour markets in Canada and Britain. *Work, employment and society*, 2, pp. 1-24.

Ashton D., Green F., 1996. *Education, training and the global economy*, Edward Elgar, Cheltenham.

Ashton D., Green F., 1997. Human capital and economic growth. *Policy options*, **18** (6), pp. 14-16, IRPP, Quebec.

Ashton D., Green F., Lowe G., 1993. The linkage between education and employment in Canada and the United Kingdom: A comparative analysis. *Comparative education*, 29, pp. 125-143.

Ashton D., Maguire M., Spilsbury M., 1990. *Restructuring the youth labour market*, London: Macmillan.

Atkinson A.B., Micklewright J., 1991. Unemployment compensation and labour market transitions: A critical review. *Journal of Economic Literature*, 4, pp. 1679-1727.

Averitt R.T., 1968. *The dual economy: The dynamics of American industry structure*, New York: Norton.

Banks M.H. et al., 1992: *Careers and identities*, Buckingham: Open University Press.

Baudelot C., Gollac M., 1997. Le Salaire du Trentenaire: Question d'âge ou de génération? *Economique et statistique*, 304-305, pp. 17-35.

Becker G.S., 1993. *Human capital – A theoretical and empirical analysis with special reference to education*, Third Edition, NBER, The University of Chicago Press.

Becker K., Rutjes H., 1998. *Early labour market outcomes in Ireland, Scotland, the Netherlands and France*, European Research Network on Transitions in Youth Conference, Edinburgh, September 1998.

Becker K., Biggart A., Raffe D., Rutjes H., 1999. Educational Backgrounds and Transition Outcomes in four European Countries; Acomparison of School Leavers Destinations in France, Ireland, the Netherlands and Sweden. *Paper to European Research Network on Transitions in Youth Conference*. OSLO. Sept. 1999.

Béduwé C., Espinasse J., Becker K., Rutjes H., 1998. Certificates, skills and job markets in Europe. *In*: Werquin P., Breen R., Planas J., eds. *Youth transitons in Europe: Theories and evidence*, Céreq, Document Séminaires, N° 120, March.

Béret P., Daune-Richard A.M., Dupray A., Verdier E., 1997. *Valorisation de l'investissement formation sur les marchés Français et Allemand: Distinction entre valeur productive et valeur de signalement*, Rapport pour le Commissariat Général du Plan, LEST, September.

Birnie J., Hitchens D., 1994. Comparative manufacturing productivity in the Republic of Ireland. *Regional Studies*, **28** (7), pp. 747-753.

Blossfeld H.P., Shavit Y., 1993. Changes in educational opportunity in the Federal Republic of Germany. A longitudinal study of cohorts born between 1916 and 1965. *In:* Shavit Y., Blossfeld H.P., eds. *Persisting inequality: Changing educational stratification in thirteen countries*, Westview Press, Boulder, Colorado, pp. 51-74.

Blossfeld H.P., 1993. Persisting barriers: Changes in educational opportunity in thirteen countries. *In:* Shavit Y., Blossfeld H.P., eds. *Persisting inequality: Changing educational stratification in thirteen countries*, Westview Press, Boulder, Colorado.

Blossfeld H.P., 1994. Different systems of vocational training and transition from school to career. The German Dual System in crossnational comparison. *In*: Cedefop, ed. *Determinants of transition in youth*, Berlin: Cedefop, pp. 26-30.

1123

Borghans L., Hughes G., Smits W., 1998. *The occupational structure of further and higher education in Ireland and the Netherlands*, Cedefop, Thessaloniki, Greece.

Breathnach P., 1997. The Introduction of the Junior Certificate: An overview. *In:* Hyland A., ed. *Issues in education*, ASTI, Dublin.

Boudon R., 1974. *Education, opportunity and social inequality*, Wiley and Sons: New York.

Breen R., 1984. *Education and the labour market: Work and unemployment among recent cohorts of Irish school leavers*, General Research series No 119, ESRI, Dublin.

Breen R., 1991. *Education, employment and training in the Irish youth labour market*, ESRI, Dublin.

Breen R., 1998. The persistence of class origin inequalities among school leavers in the Republic of Ireland, 1984-1993. *British Journal of Sociology*.

Breen R., Hannan D.F., Rottman D.B., Whelan C.T., 1990. *Understanding contemporary Ireland*, Dublin: Gill and Macmillan.

Breen R., Hannan D.F., O'Leary R., 1995. Returns to education: Taking account of employers' perceptions and use of educational credentials. *European Sociological Review*, **11** (1).

Breen R., Goldthorpe J.H., 1997. Explaining educational differentials: Towards a formal rational action theory. *Rationality and society*, **9** (2) pp. 275-305.

Breen R., Ianalli C., Shavit Y., 1998. Occupational returns to education in Italy: A consideration of rational action theory of University attendance, *Transition in youth conference*, Edinburgh, 1998, Working Papers, CES, University of Edinburgh.

Breen R., Whelan C.T., 1998. Investment in education: Educational qualifications and class of entry in the Republic of Ireland. *In:* Shavit Y., Muller W., eds. *From school to work*, Oxford: Clarendon Press.

Buck N., Gershuny J., Rose D., Scott J., 1994. *Changing households: The British Household Panel Survey 1990-1992*, ESRC Research Centre on Micro Social Change, Colchester, Essex.

Bynner J., Roberts K., eds., 1991. *Youth and work: Transition to employment in England and Germany*, London: Anglo-German Foundation.

Callan T., Harmon C., 1997. *The economic return to schooling in Ireland, UCD Centre for Economic Research*, Working Paper 92/93, UCD Department of Economics, Dublin.

Callan T., Sutherland H., 1997. Income Supports in Ireland and the UK. *In:* Callan T., ed. *Income support and work incentives: Ireland and the UK*, Dublin: ESRI.

Clancy P., 1995. *Access to College: Patterns of continuity and change*, Higher Education Authority, Dublin.

Clémenceau P., Géhin J.P., 1983. Le renouvellement de la main d'œuvre dans les secteurs: Quelles conséquences pour l'accès des jeunes aux emplois? *Formation Emploi*, 2, April-June.

Cobalti A., Schizzerotto, 1998. Occupational returns to education in contemporary Italy. *In:* Shavit Y., Muller W., eds. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Commission of the European Communities, 1993. *Growth, competitiveness, employment. The challenges and ways forward into the 21st Century*, White Paper, 6/93, OPOCE.

Commission of the European Communities, 1994. *Education and training: Toward the learning Society*, White Paper, DGXXII and DGV.

Commission of the European Communities, 1998. *Les lignes directrices pour l'emploi*, Resolution du conseil du 15 decembre 1997, OPOCE, Luxembourg.

Coleman J. et al., 1966. *Equality of educational opportunity*, U.S., Gout Printing Office, Washington D.C.

Courtney D., 1995. Demographic structure and change in the Republic of Ireland and Northern Ireland. *In:* Clancy P. et al., eds. *Irish society: Sociological perspectives*, IPA, Dublin.

Dekker R., de Grip A., Hekjke H., 1994. *Arbeidsmarktsegmentatie en Arbeidsmarktgedrag*. Working Paper, ROA, Maastricht.

Department of Education, 1995. *Charting our education future: White Paper on Education*, Dublin Stationary Office, Dublin.

Department of Education, 1996. *Investment in education*, Dublin Stationary Office, Dublin.

Doeringer P.B., Piore M.J., 1971. *Internal labor markets and Manpower analysis*, Lexington, Mass.: DC Heath.

Duffy D., Fitzgerald J., Kearney I., Shortall F., 1997. *Medium term review: 1997-2003*, ESRI, Dublin.

Edwards R.C., 1979. *Contested terrain*, London: Heinemann.

Erickson R., Goldthorpe J.H., 1992. *The constant flux: A study of cross-mobility in industrial societies*, Oxford: Clarendon Press.

Erickson R., Jonsson J.O., 1996. *Can education be equalised: The Swedish case in comparative perspective*, Westview Press, Boulder, Colorado.

ESF Programme Evaluation Unit, 1996. *Early school leavers provision*, Dublin ESF Evaluation Unit, Dublin.

ESF Programme Evaluation Unit, 1997. *Preventive actions in education*, Dublin ESF Evaluation Unit, Dublin.

Esping-Andersen, G. 1993. "Post Industrial Class Structures: An Analytical Framework.". *In:* Esping-Andersen, G. (Edit.). *Changing Classes: Stratification and Mobility in Post-Industrial Societies*. Newbury Park, London: Sage.

European Commission of the European Communities, 1995. *Teaching and learning: Towards a learning society*, White Paper, Comm 95, 0590.

Eurostat, 1997. *Europe in figures*.

Evans K., Heinz W.R., 1991. Career trajectories in Britain and Germany. *In:* Bynner J., Roberts K., eds. *Youth and work: transition to employment in England and Germany*, London: Anglo-German Foundation, pp. 205-227.

Evans K., Heinz W.R., eds., 1994. *Becoming adults in England and Germany*, London: Anglo-German Foundation.

Eyraud F., Marsden D., Silvestre J.J., 1990. Occupational and internal labour markets in Britain and France. *International Labour Review*, 129, pp. 501-517.

Fahey T., Fitzgerald J., 1997. *Welfare implications of demographic trends*, Oak Tree Press/Combat Poverty Agency, Dublin.

Formation – Emploi, 1987. *De l'école à l'emploi*, special issue N°18, April-June.

Freysson, 1996. *Europe in figures*, Eurostat.

Furlong A., Cartmel C., 1997. *Young people and social change: Individualisation and risk in late modernity*, Buckingham: Open University Press.

Gallie D., 1991. Patterns of skill change: Upskilling or the polarisation of skills? *Work, employment and society*, **5** (3), pp. 319-351.

Garnsey E., Ruberyand J., Wilkinson F., 1985. Labour market structures and work-force divisions. *In:* Deem R., Salaman G., eds. *Work, culture and society*, Milton Keynes: Open University Press.

Goldthorpe J.H., 1998. Rational action theory for Sociology. *The British Journal of Sociology*, **49** (2), June.

Goldthorpe J.H., 1996. The quantitative analyses of large data sets. *European Policy Review*, **12** (2).

Goldthorpe J.H., Breen R., 1998. Class (and gender) differentials in educational attainment: Towards a more formal theory. *British Journal of Sociology*.

Goux D., Maurin E., 1998. From education to first job: The French case. *In:* Shavit Y., Muller W., eds. 1998. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Green F., Ashton D., Burchell B., Davies B., Felstead A., 1997. *An analysis of changing work skills in Britain*, Paper to low wage employment Conference, CEPR, LSE, London, December 1997.

Grub W.N., Ryan P., 1997. *Plain talk on the field of dreams: The roles of evaluation for vocational education and training*, Working Paper prepared for the Training Policies Branch, ILO, Geneva, October.

Guerraro T.J., 1997. *The four spains of family emancipation: Cross-regional differences in transitions out of the parental home*, Paper for the Network on Transitions in Youth Workshop.

Halpin B., Chan T.W., 1998. Class careers as sequences: An optimal matching analysis of work-life histories. *European Sociological Review*, **14** (2) pp. 111-130.

Hannan D.F., 1986. *Schooling and the labour market*, Shannon CDU and Department of Education, Shannon.

Hannan D.F., O Riain S., 1993. *Pathways to Adulthood in Ireland: Causes of Success and Failure in Transitions amongst Irish Youth*. Dublin: ESRI.

Hannan D.F., Hovels B., van den Berg S., White M., 1995. Early leavers from education and training in Ireland, the Netherlands and the United Kingdom. *European Journal of Education*, **30** (3), pp. 325-346.

Hannan D., O Riain S., 1996. *Pathways to Adulthood in Ireland*. ESRI General Research Series. No. 161. Dublin.

Hannan D.F., McCabe B., McCoy S., 1998. *Trading qualifications for jobs: Overeducation and the Irish youth labour market*, Dublin: Oaktree Press/ESRI.

Hannan D.F., O'Riain S., 1993. *Pathways to adulthood in Ireland*, ESRI, Paper no. 161. Dublin.

Hannan D.F., Raffe D., Smyth E., 1996/97. *Cross-national research on school to work transitions: An analytical framework*, OECD Working Paper 1996; published in: Werquin P., Breen R., Planas J., eds. 1997. *Youth transitions in Europe: Theories and evidence*, Cereq Seminar Papers, Marseille.

Hannan D.F., Smyth E., McCullagh J., O'Leary R., McMahon D., 1996. *Coeducation and gender equality*, Dublin: Oak Tree Press/ESRI.

Hannan D.F. et al., 1998. Leonardo, *Vocational training and labour market transitions in France, Ireland, the Netherlands and Scotland (VTLMT)*, Final report, Dec. 1998.

Heath A., Cheung S.Y., 1998. Education and opportunity in Britain. *In:* Shavit Y., Müller W., eds. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Hitchens D.M., O'Farrell P.N., 1988. The comparative performance of small manufacturing companies located in the Mid West and Northern Ireland. *The Economic and Social Review*, **19** (4), pp. 177-198.

Hughes G., Nolan B., 1997. Segmented labour markets and earnings in Ireland. *The Economic and Social Review*, **28** (1), pp. 1-22.

Iedema J.H., Becker A., Saunders K., 1997. Transitions into independence: A comparison of cohorts born since 1930 in the Netherlands. *European Sociological Review*, **13** (2).

Ishida H., Muller W., Ridge J.M., 1995. 2Class Origin, Class Destination and Education: a Cross-National Study of Ten Industrial Nations. *American Journal of Sociology*.

Jackson P., Barry U., 1989. Women's employment and multinationals in the Republic of Ireland: The creation of a new female labour force *In:* Elson D., Pearson R., eds. *Women's employment and multinationals in Europe*, London: Macmillan.

Jonoski T., 1990. *The political economy of unemployment action: Labour market policy in West Germany and the United States*, Berkeley: University of Colorado Press.

Kerckhoff A.C., 1993. *Diverging pathways: Social structure and career deflections*, Cambridge: Cambridge University Press.

Kerckhoff A.C., 1995. Institutional arrangements and stratification processes in industrial societies. *Annual Review of Sociology*, 15, pp. 323-347.

Kerckhoff A.C., 1998. Transition from school to work in comparative perspective. *In:* Hallinan M., ed. *Handbook of Sociology of Education*, Plenum Publishing.

Kerckhoff A., Bell L., 1998. Vocational Credentials and Attainment in the United States. *Sociology of Education*. **17** (2).

Konietzka D., Solga H., 1995. *Two certified societies: The regulation of entry into the labour market in East and West Germany*, ESF Transitions in Youth Conference, Available from ESF France.

Krahn H., 1997. On the permanence of human capital: Use it or lose it. *Policy options*, **18** (6), IRPP, Quebec.

Lundvall B.A., Borras S., 1997. *The globalising learning economy: Implications for innovation policy*, report based on contributions from several TSER projects. DGXII, Commission of the European Communities, Brussels.

Lynch K., O'Riordan C., 1996. *Social class, inequality and higher education*, UCD, Dublin.

1126

Malinvaud E., 1980. *Réexamen de la théorie du chômage*, éditions Calman-Lévy, collection Perspectives de l'économique, Économie Comtemporaine, Paris.

Malinvaud E., 1983. *Essai sur la théorie du chômage*, éditions Calman-Lévy, Paris.

Marsden D., 1990. Institutions and Labour Mobility: Occupational and Internal Labour Markets in Britain, France, Italy and West Germany. pp. 414-438. *In*: R. Brunetta, C. Dell'Aringa., eds. *Labour Relations and Economic performance*. London: Macmillan.

Marsden D., Germe F., 1991. Young people and entry paths to long-term jobs in France and Great Britain. *In:* Ryan P., Garonna P., Edwards R.C., eds. *The Problem of youth*, London: Macmillan, pp. 178-199.

Marsden D., Ryan P., 1990. Institutional aspects of youth employment and training policy in Britain. *British Journal of Industrial Relation*, 28, pp. 351-369.

Maurice M., Sellier F., Silvestre J.J., 1982. *Politique d'éducation et organisation industrielle en France et en Allemagne. Essai d'analyse sociétal*, Paris: Presses Universitaires de France. (English translation: *The social foundations of individual power: A comparison of France and Germany*, Cambridge, Mass: MIT Press).

McCoy S., Hannan D.F., 1995. *Early school leavers*, ESRI Working Paper 67, Dublin.

McCoy S., Whelan B.J., 1996. *The economic status of school leavers, 1993-1995*, ESRI/Dept. education, Trade and Employment, Dublin.

Meulders D., 1998. Les politiques européennes de l'emploi, Working Paper prepared for the Brussels International Meeting on *Employment Policies*, Free University – ULB, Brussels, 20-21 April.

Minguez A., 1998. *The late emancipation of the Spanish youth: Keys for understanding*, European Research Network on Transition in Youth, Annual workshop, Edinburgh, September 1998.

Monacorda M., Robinson P., 1996. *Qualifications and the labour market in Britain: 1984-1994. Skill Biaftrtsed change in the demand for labour or credentialism*? Mimeo, CEPR, London.

Müller W., Luttinger P., Kkonig W., Karle W., 1990. Class and Education in Industrial Nations. *In*: M. Haller, ed. *Class Structure in Europe: New Findings from East West Comparisons of Social Structure and Mobility*. Sharpe. N.Y.

Müller W., Karle W., 1993. Social selection in educational systems in Europe. *European Sociological Review*, 9, pp. 1-23.

Müller W., Shavit Y., 1998. The Institutional embeddedness of the stratification process: A comparative study of qualifications and occupations in thirteen countries. *In:* Shavit Y., Müller W., eds. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Murray, Steedman, 1997. *Changing skill profiles: Cross-country comparisons*, TSER Paper.

Nakajima F., 1990. *Comparative Study on Choice of First Job and Early Occupational History in Japan, the USA and Great Britain*. Working Paper. The Japanese Institute of Labour. Tokyo.

O'Connell P., McGinnity F., 1997. *Working schemes? Active labour markets in Ireland*, Ashgate, Aldershot, Hants: United Kingdom.

O'Connell P., McGinnity F., 1997. What works, Who works? The employment and earnings effects of active labour market programmes among young people in Ireland. *Work, employment and society*, **11** (4), pp. 639-661.

OECD, various years. *Education at a glance*, Paris: OECD.

OECD, 1994. *Women and structural change: New perspectives*, Paris: OECD.

OECD, 1996. *Employment outlook*, Paris: OECD.

O'Farrell P.N., Hitcens D.M., 1988. The relative competitiveness and performance of small manufacturing firms in Scotland and the Mid West of Ireland: An analysis of matched pairs. *Regional Studies*, **22** (5), pp. 399-416.

Pottier F., 1993. (ed.). *Bilet et Synthese des mathodologies d'enquêtes relatives à l'insertion des jeunes sur le marché du travail en Europe*. Marseille, CEREQ.

Pyle J.L., 1990. *The State and women in the economy: Lessons from sex discrimination in the Republic of Ireland*, New York: State University of New York Press,.

1127

Raffe D., 1992. Beyond the Mixed Model: Social Research and the Case for Reform of 16-18 Education in Britain. *In*: C. Crouch and A. Heath., eds. *Sociology and Social Reform: Essays in Honour of A. Halsey*. London: Clarendon Press.

Raffe D., 1993. *An Information System on Young People Leaving Education and Training: A Discussion Paper.* Report to Task Force on Human Resources and Eurostat. CES. University of Edinburgh.

Raffe D., Willms J.D., 1989. Schooling the discouraged worker: Local labour market effects on educational participation. *Sociology*, 23, pp. 559-581.

Raftery A.E., Hout M., 1993. Marginally unexplained inequality: Expansion, reform and opportunity within education. *Sociology of education*, **66** (1).

Reilly B., 1987. Wages, sex discrimination and the Irish labour market for young workers. *Economic and Social Review*, **18** (4), pp. 271-305.

Reilly B., 1990. Occupational endogeneity and gender wage differentials for young workers. *Economic and Social Review*, **21** (3), pp. 311-328.

Roberts K., 1995. *Youth and employment in Modern Britain*, Oxford: Oxford University Press.

Roberts K., Clark S.C., Wallace C., 1994. Flexibility and individualisation: A comparison of transitions into employment in England and Germany. *Sociology*, **28** (1).

Roberts K., Parsell G., 1992. Entering the labour market in Britain: The survival of traditional opportunity structures. *Sociological Review* 30, pp. 727-753.

Robinson P., 1996. *Studies in the labour market in the UK*, CEPR, Sept, 1996.

Robinson P., Manacorda M., 1997. *Qualifications and the labour market in Britain, 1984-1994: Skill based change in the demand for labour or credentialism?* Discussion Paper 330, CEPR, Feb., 1997.

Rosenbaum J.E., Kariya T., 1991. Do school achievements affect the early jobs of High School graduates? Results from the High School and beyond surveys in the USA and Japan. *Sociology of education*, **64** (1), pp. 78-95.

Rubery J., Fagan C., 1995. Gender segregation in societal context. *Work, employment and society*, **9** (2), pp. 213-240.

Rubery J., Wilkinson F., 1994. *Employer strategy and the labour market*, Oxford: University Press.

Ryan P., Edwards R., Garonna P., eds., 1991. *The Problem of Youth*. London.MacMillan.

Ryan P., 1996. Methods and findings in school to work evaluation research in the US. *In:* Werquin P., Breen R., Planas J., eds. *Youth transitions in Europe: Theories and evidence.* Céreq, Document Séminaires, number 120, March.

Schizzerotto, Cobelti A., 1998. Occupational returns to education in contemporary Italy. *In:* Shavit Y., Müller W., eds. 1998. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Schupp J., Büchtemann C.F., Soloff D., 1994. *School to work transitions: West Germany and the United States*, Transitions in Youth Workshop, Strasburg, Switzerland, Available from ESF France.

Semeijn J., van der Velden R., Boone C., Gijselaers W., van Witteloostuijn A., 1997. *Graduates learning styles and labour market entry*, Working Paper Faculty of Economics, University of Maastricht.

Semeijn J., van der Velden R., 1998. *Why do graduates end up in different jobs? Aspects of learning style and labour market entry*, Working Paper Faculty of Economics, University of Maastricht.

Sexton J.J., Whelan B.J., Williams J.A., 1988. *Transition from school to work and early labour market experience*, ESRI, Dublin.

Sexton J.J., Canny A., Hughes G., 1996. *Changing profiles in occupations and educational attainment.* FAS/ESRI Manpower Forecasting Studies Report No. 5, FAS/ESRI, Dublin.

Sexton J.J., O'Connell P.J., 1996. *Labour market studies: Ireland*. Luxembourg: EUR-OP.

Shavit Y., Blossfeld H.P., eds., 1993. *Persistent inequality: Changing educational stratification in thirteen countries*, Boulder: Westview Press.

Shavit Y., Müller W., eds., 1998. *From school to work: A comparative study of educational qualifications and occupational destinations*, Oxford: Clarendon Press.

Shavit Y., Müller W., 1998. Vocational secondary education and labour market outcomes. *Handbook of sociology of education*.

Smyth E., 1993. *Labour market structures and women's employment in Ireland*. Ph.D. Thesis, University College Dublin.

Smyth E., 1997. Labour market structures and women's employment in the Republic of Ireland. *In:* Leonard M., Byrnes A., eds. *Women and Irish society*, Belfast: Beyond the Pale.

Smyth E., 1999. *Do schools differ? Academic and personal development among pupils in the second-level sector*, Dublin: Oak Tree Press/ESRI.

Smyth E., Hannan D.F., 1995. *1985/86 school leavers: A follow-up study in 1992*, ESRI Working Paper 65, Dublin.

Smyth E., McCabe B., 1998. *Transition outcomes among lower level leavers in Ireland, Scotland, the Netherlands and France*, European Research Network on Transitions in Youth, Annual Workshop, September 1998.

Smyth E., Surridge P., 1995. *A comparative analysis of school to work transition patterns and processes in Ireland and Scotland 1980-1991*, Strasbourg: ESF Working Paper.

Smyth E., Surridge P., 1996. *Educational differentiation and occupational allocation among school leavers in Ireland and Scotland, 1981-1991*, Strasbourg: ESF Working Paper.

Sofer et al., 1995. TSER, PL95-2124. *Schooling and transitions: An economic perspective*, University of Orelans.

Soskice D., 1990. Reinterpreting corporatism and explaining unemployment: Co-ordinated and non-co-ordinated market economies. *In:* Brunetta R., Dell'Aringa C., eds. *Labor relations and economic performance*, London: MacMillan, pp. 170-211.

Soskice D., 1993. *Product markets and innovation strategies of companies and their implications for enterprise tenure: A comparative institutional approach to some cross-county differences*, Unpublished manuscript, Berlin: Wissenschaftszentrum Berlin für Sozialforschung.

Soskice D., 1997. *Divergent production regimes: Coordinated and uncoordinated market economies in the 1980s and 1990s*, Berlin: Wissenschaftszentrum Berlin für Sozialforschung.

Steedman H., 1997. *'Newskills'. 1996-1999. Education and training: New job skills needs and the low skilled*, CEPR, LSE, London.

Steedman H., Wagner K., 1989. A second look at productivity, machinery and skills in Britain and Germany. *National Inst. Econ. Review.*, 122, pp. 84-95.

Steedman H., Wagner K., 1989. Productivity, machinery and skills clothing manufacturing in Britain and Germany. *National. Inst. Econ. Review.*, 122, pp. 40-57.

Spring J., 1976. *The sorting machine*, New York: David McKay.

Tanguy L. (dir), 1986. *L'introuvable relation: formation/emploi. Un état des recherches en France*, Paris: La Documentation Française, 302.

TSER, 1996. *Guidance note to work programme*, EU DGXII.

Verdier É., 1996. L'insertion des jeunes à la Française: Vers un ajustement structurel? *Travail et Emploi*.

Whelan C.T., Smyth E., Hannan D.F., 1996. *Educational inequality in the Republic of Ireland*, Paper presented to the British Academy Symposium, Nuffield College.

Williams J., Collins C., 1997. *The economic status of school leavers, 1994-1996*, ESRI/Dept. Education/Dept. Enterprise and Employment, Dublin.

Wooden M., 1997. The labour market situation for young Australians, Paper to a seminar on *Learning and work: The situation of young Australians*.

Yoshimoto K., 1996. *Transition from school to work in Japan*, Background paper to OECD.

1123

Appendix: Variable specification for currrent SLS database

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
			Constructed variables			
Country	land	1. Ireland 2. Netherlands 3. Scotland 4. France	Compute land=1	Compute land=2	Compute land=3	Compute land=4
Weighting	euwgt			*		
Sample exclusion		[Individual country vars]	* Excludes those who never left second-level system and those over 22 on leaving school	* Excludes those who never left second-level system and those over 24 on leaving school	* Excludes those still in school at time of survey and those over 22 on leaving school	* Excludes those over 24 on leaving school
			Personal characteristics			
Month of interview	msurv	Codes 1 to 12 by month	L1_2	Ddbinnen	Recmth * Date received questionnaire	Compute msurv=11 * For France, time of survey is set at Nov. 1995
Year of interview	yrsurv	Code actual year (4 digit)	Based on L1_2	Ddbinnen	Recyr	Compute yrsurv=95
Month of birth	mborn	Codes 1 to 12 by month	L2a_1	Not available	Brthmth	Mnaissq1
Year of birth	yrborn	Code actual year (4 digit)	L2a_2	Not available	Brthyr	Anaissq1
Month left school	mleft	Codes 1 to 12 by month	L5_1	goeim	Termlft * recoded into proxies	Msoreco1 or mfinapp1
Year left school	yrleft	Code actual year (4 digit)	L5_2	goeij	Termlft	Asoreco1 or afinapp1
Age at time of survey	age	Derive from month/ year of survey and month/year of birth		* Base on self-reported age (lft)		
Gender	sex	1. Male 2. Female	s11	Gesl	Gender	Sexe___1
Ethnic group	ethnic	1. Not ethnic minority 2. Ethnic minority	Not available	n_etni	Not available	Not available
Immigrant status	immig	1. Not immigrant 2. Immigrant 3. Child of immigrants	L2b * Only born outside country; not parents	Not available	Not available	Based on denaiss1, denaisp1 and denaism1

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Ethnic/ national grouping	nleth freth	Use within-country group codes	Not available	etni1 2 Dutch Antilles/ Aruban 3 Surinam 4 Turkish 5 Moroccan 6 Chinese 7 Belgian 8 German 9 Other	Not available	Portuga1 to langaut1 * Based on language spoken at home 1 Portuguese 2 Other European 3 Arab/semitic 4 Asian 5 African 6 Other
Marital status	marital	0. Single 1. Married (incl. living as married/ separated)	L2c	Not available	Marriedz * Note only asked in FU for S6 leavers	Based on viecoup1 with corrections using avicoup1, mvicoup1, vicoupa1, asepara1, msepara1
Has children?	child	0. No children 1. One or more children	Not available	Not available	Anykidz * Note only asked in FU for S6 leavers	Based on enfants1 with corrections using mnai1en1
Left parental home? (at time of survey)	lefthome	0. Still in parental home 1. Left parental home	L2d	Not available	Staynowz * Note only asked in FU for S6 leavers	sitfami1 * But refers to time of survey rather than fixed time-point
Household situation (at time of survey)	House	1. With parents 2. With in-laws/other family 3. In own household (with/out spouse) 4. Sharing house (other than spouse) 5. Hall of residence/ other institution 6. Other	L2d	Not available	Staynowz * Note only asked in FU for S6 leavers	sitfami1 * But refers to time of survey rather than fixed time-point
Location of current residence	Irarea Nlarea Scarea Frarea	Country-specific categories	Based on L3a, L3b and L3c Categories 0. Rural 1. Urban	Urbannl 0. Rest 1. West	Urbur 1. 1million + 2. 100,000-999,999 3. 10,000-99,999 4. 1,000-9,999 5. Under 1,000	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Moved from local area?	Leftarea	0. No 1. Yes	Based on L3a, L3b and L3c	Not available	Not available	Not available
Emigrant?	emig	0. No 1. Yes	L3c	Emigni	Not available	Not available
			Family background			
Employment status of father	empfath	1. Employed 2. Unemployed 3. Retired 4. Not in LF (home duties/ill/disabled/in training) 5. Other 6. Deceased	L43_1	Not available	Dadnow	Sitpere1
Employment status of mother	empmoth	1. Employed 2. Unemployed 3. Retired 4. Not in LF (home duties/ill/disabled/in training) 5. Other 6. Deceased	L43_2	Not available	Mumnow	Sitmere1
Occupation of father	Occfath	10. I - Upper service class 20. II - Lower service class 31. IIIa - Upper routine non-manual 32. IIIb – Lower routine non-manual 41. IVa – Small proprietors 42. IVb – Self-employed 43. IVc – Farmers 50. V – Lower technical / manual supervisory workers	Based on L44 and L43_1	Not available	Dadsoc, dades	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
		60. VI - Skilled manual workers 71. VIIa - Semi-/ unskilled manual workers 72. VIIb – Agricultural workers				
Occupation of father – France only	frocct	1. Professional 2. Self-employed 3. Other non manual 4. Skilled manual 5. Unskilled manual 6. Other	Not available	Not available	Not available	Sitfape_1
Occupation of mother	Occmoth	As occfath	Based on L45 and L43_2	Not available	Mumsoc, mumes	Not available
Occupation of mother – France only	frocc[illegible]	As frocct	Not available	Not available	Not available	Sitmere_1
Education of father	edfath	1. Less than/ incomplete upper secondary 2. Completed upper secondary/ Third-level education	Not available	Not available	Daded	sitpetu1
Education of father: age left school (Scotland)	scedf	1. 15 years or less 2. 16 years 3. 17 years 4. Not answered	Not available	Not available	Daded	Not available
Education of father: level (France)	fredf	5. No schooling 6. Primary school 7. Secondary-4th/5th year 8. Baccalauréat 9. Higher education 10. Not answered	Not available	Not available	Not available	Sitpetu1
Education of mother	edmoth	As edfath	Not available	Not available	Mumed	Sitmetu1
Education of mother: age left school (Scotland)	scedm	As scedf	Not available	Not available	Mumed	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Education of mother: level (France)	fredm	As fredf	Not available	Not available	Not available	Sitmetu1
No of siblings	sibs	Actual number	Not available	Not available	Brothers, sisters	Nbfrere1, nbsoeur1
			Educational background			
Type of school	schtype	1. Academic 2. Comprehensive 3. Vocational	School	Based on school ID Nlschtype	Set to 2 (Comprehensive)	Based on typetab1 with corrections for strate_1
Private/public school	privat	1. Publicly owned (public authority) 2. Privately owned but subsidised 3. Privately owned fee-paying school	School	Based on school Ids Nlprivat	Schstat	Typetab1
Religious denomination of school	relig	4. Catholic 5. Protestant 6. Interdenominational 7. Non-denominational	School	Based on school Ids Nlrelig	Schdenom	Not available
Age left school	ageleft	Derive from date of birth and time left school.	Mleft, yrleft and mborn, yrborn	* Proxy based on self-reported age and time left school, mleft, yrleft, msurv, yrsurv	Mleft, yrleft and mborn,yrborn	Mleft, yrleft and mborn,yrborn
Highest stage: CASMIN	levcas	1. 1ab. Compulsory education 2. 1c. Basic vocational training 3. 2a. Advanced vocational training 4. 2b. Academic secondary intermediate 5. 2c. Full maturity certification	Based on L6a with correction for L9b	N_gorpli	Totscep and nummod	Casmin

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Highest stage: VTLMT	levvtlmt	1. Incomplete lower secondary/Took no formal exams 2. 'Failed' lower second-level exam 3. 'Passed' lower second-level exam 4. 'Failed' upper second-level exam 5. 'Passed' lower second-level exam	Based on L6a and exam grade variables (I7_3, I7_6, I7_9, I7_12, I7_15, I7_18, I7_21, I7_24, I7_27, I7_30, I7_33; I7c_1 to L7c_7)	nllevtvt	Based on stage, termlft and totscep	frlevvt
Type of programme	currtyp	1. Vocational/ technical 2. Academic	Based on subjects taken (L7_1, L7_4, L7_7, L7_10, L7_13, L7_16, L7_19, L7_22, L7_25, L7_28, L7_31) with correction for L9b	N_gorpli	Number of modules and Higher passes Nummod, totach56, totach5	Classec1
Subjects/courses taken	Coursci Courmlan Courlang Courbus Courtech Courmath Coursoc Courart Courtot	Actual number of courses taken	As currtyp	Subject variables	Based on SQA data	Not available
Curricular level	Ircurlev Nlcurlev	Country-specific classification	Based on L6a and subject level variables (L7_2, L7_5, L7_8, L7_11, L7_14, L7_17, L7_20, L7_23, L7_26, L7_29, L7_32) Categories: 0. Pass junior cycle 1. Huns junior cycle	Nl_level VBO and MAVO only. Only categories 5 and 6 for MAVO 1. A 2. A/B 3. B 4. B/C 5. C 6. C/D 7. D	Not available	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
			2. Pass senior cycle 3. Hons senior cycle	1 is Lowest		
Grades/awards received	Irgpav Nlgrade Scgrade	Country-specific scale	Based on exam grade variables (l7_3, l7_6, l7_9, l7_12, l7_15, l7_18, l7_21, l7_24, l7_27, l7_30, l7_33; l7c_1 to L7c_7)	Based on exam grade variables (excennl to excvnn2) * For MAVO, HAVO and VWO only	Based on SQA data – exams last sat	Not available
Last exam taken (Netherlands only)	Nlexam	0. MAVO 1. HAVO 2. VWO	Not applicable	N_gorpli * For MAVO, HAVO and VWO only	Not applicable	Not applicable
Part-time job/ work experience?	Ptime	0. No part-time job during school 1. Part-time job/ work experience during school	Not available	Not available	Not available	Based on jobvaca1, jobwend1, staentr1 and petboul1
			Employment characteristics			
Principal activity: time of survey	Activ	1. Working for payment or profit 2. Apprenticeship 3. Youth programmes/ Training/employment schemes 4. Unemployed 5. Student 6. National service 7. Other	Based on L11a_9 to L11a_20 with corrections based on L41 and L10_2	Based on n_mpl with corrections based on hdvb1l	Based on donow with corrections based on ytpart and apprent	* Situation at Nov. 1995 Based on sizp26 (new version of sit126,sit226, sit326)
Principal activity: May of year after leaving	Actmay	As activ	Based on L11a_12 with corrections for previous participation in schemes and apprenticeships (L13c, L32a_1 to L32a_8) * May underestimate apprenticeships and schemes	Based on mp9705l * But can't distinguish those on schemes	Based on donow with corrections for ytpart and apprent	Based on sizp20 (revised version of sit120)

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Employment status	Status	1. Self-employed 2. Employee 3. Employed through agency 4. Assisting relative 5. Apprentice 6. On scheme/ youth programme 7. Other	Based on L15 with corrections from activ for schemes/ apprentices.	Based on n_hdvb1l with corrections from activ for schemes/ apprentices.	Not available	Based on sizp26 with corrections from activ for schemes/apprentices.
'Mixed status': student in part-time job	mixed	0. No 1. Yes * Filtered on student as principal activity.	Based on activ, L13a and L13b.	Based on activ and vwbw	Based on donow and ptjob	Not available
Mixed status 2 (all those in part-time education)	Mixed2	0. No 1. Yes	Based on activ, nowed and nowpted	Based on activ, nowed and nowpted	Based on activ, nowed and nowpted	Not available
Current job(i.e. time of survey, Nov 95 for France):						
Permanent/temporary	perm	0. Temporary 1. Permanent/regular	L13a	n_hasd	Not available	Sizp26
No hours	hours	Record actual number of hours	L18	n_hau	hrswork. * But there is truncation on full-time work	Based on nbheu__1, nbheu1_1 to nbheu4_1
Collapsed No hours	nhours	1. Less than 15 2. 15-29 3. 30-39 4. 40-49 5. 50+	hours	Hours	hours	hours
Full-time/part-time (full-time is greater than 30 hours per week)	ftime	0. Part-time 1. Full-time	Recode of hours	Recode of hours	Based on donow, ptjob and hours	Recode of hours
Earnings	iream nlearn scearn frearn	Earnings are calculated on different bases across countries (see note).	L20a	n_hbi * Data for IVBO (hni) is not comparable	Earnpnds and earnpenc	Based on salai__1 and salai1_1 to salai4_1.

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Occupation: social class	sclass	10. I - Upper service class 20. II - Lower service class 31. IIIa - Upper routine non-manual 32. IIIb – Lower routine non-manual 41. IVa – Small proprietors 42. IVb – Self-employed 43. IVc – Farmers 50. V – Lower technical / manual supervisory workers 60. VI - Skilled manual workers 71. VIIa - Semi-/ unskilled manual workers 72. VIIb – Agricultural workers	Based on L14 and L15	nlegp	Jobsoc No Employment Status so assume all are employees	Not available
Occupation: social class (9 categories)	Sclass9	1. I 2. II 3. III 4. IVab 5. IVc 6. V 7. VI 8. VIIa 9. VIIb	Recode of sclass	Recode of sclass	Recode of sclass	Pcsag__1
Occupation: status	occstat	Based on Ganzeboom's scale	L14	N_hber	jobsoc	occisco
Occupation: ISCO-88 equivalent	Occisco	Map to ISCO-88 codes	L14	N_hber	jobsoc	Iscocom3

1146

1147

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Occupation: segment	occseg	Gordon's schema: 1. Indep primary prof tech 2. Independent primary craft 3. Subordinate primary 4. Secondary	occisco	occisco	occisco	occisco
More accurate version of Gordon's schema for Ireland	iroccseg	As occseg	L14 and L16	Not available	Not available	Not available
Alternative occupational classification	occalt	1. Semi/unskilled occupations to depend on industry coreVperiph 2. Other	occisco	occisco	occisco	occisco
Industry: group by type (VTLMT classification)	indtype	3. Agriculture 4. Manufacturing 5. Construction 6. Distribution 7. Transport/ Communication 8. Finance 9. Public administration 10. Professional services 11. Personal,other services 12. Other	L16	n_hbra	Jobsic	Based on acten__1 and acten1_1 to acten4_1
Industry: segment	indseg	Based on core/ periphery distinction adapted by Hughes & Nolan	Indtype	Indtype	Indtype	Indtype

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Availability for work, if currently looking for work	avail	0. Not immediately 1. Immediately/ 2 weeks	L24c	bwbsb	Not available	Not available
Job search methods	search1 to search9	Dummy variables for: 1. Employment agency 2. Private agency 3. Newspaper ads 4. Contacting employers 5. Personal contacts 6. School 7. Placed ads 8. Other employment measures 9. Other	Based on L31a and L31b_1 to L31b_9.	Not available	Not available	Based on moye1__1 to moye4__1, moyre1_1 to moyre4_1
Post sec. ed. edcuation/training						
Full-time education (current participation):						
Currently participating?	nowed	0. No 1. Yes	Based on activ, L33 and L34a	Based on activ, vvod, vvovt, vvogev	Based on activ	Based on activ
Type of institution	edinst	1. University 2. Other third-level 3. 'Multi-level' (i.e. provides both 3rd and 2nd level courses) 4. Second-level: general 5. Second-level: vocational 6. Other	L34a	Not available	Instname	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Level of course	edlevel	7. 3rd level degree (3 yrs +) 8. 3rd level sub-degree (diploma or certificate; <3 years) 9. Upper second-level: general 10. Lower second-level general 11. Upper second-level: vocational – industry 12. Upper second-level: vocational – services 13. Upper second-level: vocational – field not specified 14. Lower second-level: vocational – industry 15. Lower second-level: vocational – services 16. Lower second-level: vocational – field not specified 17. Other	Based on L35a, L35c, L35d and edinst	Based on n_vl1 and n_secvl	Not available	Diplet_1
Subject area of course	Edsubj	1. Agriculture/Science 2. Engineering/ architecture 3. Business studies 4. Medicine & related 5. Humanities/ Social Science 6. Art 7. Law	L35a	Based on edlevel and n_secvl	Not available	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
		8. Second-Level General 9. Second-level Vocational 10. Other				
Occupational specificity of course (NL only)	occspec	0. Not occupationally specific 1. Occupationally specific	Not available	Based on n_vl1 and n_secvl	Not available	Not available
Full-time education (previous participation):						
Ever participated in full-time education?	evered	0. No 1. Yes	Based on L36, L39, L11b_1, L11b_2, L11b_3, nowed	Based on vvod, vvovt, vvogev	Not available	Diplet_1
Type of institution	Previnst	As edinst	L37	Not available	Not available	Not available
Level of course	Previev	As edlevel	L38	Based on n_vl1 and n_secvl	Not available	Diplet_1
Whether completed course	prevcomp	0. No 1. Yes	L39	Vvod	Not available	Based on dipoet_1
Subject area of course	Prevsubj	As edsubj	Not available	Based on previev and n_secvl	Not available	Not available
Apprenticeship training						
Current participation	Appr	0. Not an apprentice 1. Apprentice	Based on activ	Based on activ	Based on activ	Based on activ
Leaver from apprenticeship – CFA (France only)	frappr	0. No 1. Yes	Not available	Not available	Not available	
Status of apprenticeship	Appemp	0. No employment contract 1. Employment contract	L13a and L15	Llwwk	Based on donow	Set to 1 (Employment contract)
Certification to be obtained	Acertir Acertnl	Country-specific categories	L41 1. Statutory apprenticeship 2. Non-statutory apprenticeship	Llwn 1. Primary level 2. Secondary level 3. Tertiary level	Not available	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Previous participation in apprenticeship (incomplete)	Appdrop	0. No 1. Yes	Not available	Llwdc and llwgev	Not available	Based on sizp01 to sizp26
State training/ youth programmes:						
Currently participating?	Nowsch	0. No 1. Yes	Based on L10_1 and L10_2 with corrections for appr and nowed	Based on activ	Based on activ	Based on activ
Content of scheme	Schcon	1. No training (work experience only) 2. General training 3. Specific skills training	L10_2	N_hdvb1	Set to 3 (specific skills)	Based on sizp26 and mesurd_1
Institutional arrangements	Schinst	4. Classroom-based 5. Workplace-based 6. Alternance	L10_2	N_hdvb1	Based on wheretrn and onjobtrn	Based on sizp26 and mesurd_1
Certification to be obtained	Schcert	7. No 8. Yes	L10_2	N_hdvb1	Set to 1 (Yes)	Based on sizp26 and mesurd_1
Previous participation in schemes	Prevsch	0. No 1. Yes	L32a_1 to L32a_9	Not available	Not available	Based on sizp01 to sizp26
Other employment-related training (current):						
Currently participating?	Nowtr	0. No 1. Yes	Based on L33, L34a, L35a, L40 with corrections for appr, nowsch, nowed	Cbog4w	Based on wheretrn and onjobtrn	Not available
Part-time education (current participation):						
Currently participating?	nowpted	0. No 1. Yes	Based on L33 with corrections for nowed, nowsch, appr and nowtr	Based on vvod, vvovt and vvogev	Ednow	Not available
Type of institution	ptinst	As edinst	L34a	Not available	Instname	Not available
Level of course	Ptlevel	as edlevel	Based on L35a, L35c, L35d and ptinst	Based on n_vl1 and n_secvl	Not available	Not available
Subject area of course	Ptsubj	as edsubj	L35a	Based on n_secvl and ptlevel	Not available	Not available

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Occupational specificity of course	Ptspec	as occspec	Not available	Based on n_vl1 and n_secvl	Not available	Not available
			Labour force history			
Changes in labour force status since June of school-leaving year	chstat	Changes between five comparable statuses: 1. employment/ apprenticeship; 2. unemployment/ scheme; 3. student; 4. inactive; 5. other/ military service	L11a_1 to L11a_20	mp9606l to mp9712L	Not available	sizp09 to sizp26
No of changes in status since June of school-leaving year	irchstat nlchstat frchstat	Uses country-specific categories for changes in status	Based on L11_1 to L11a_20	Based on mp9606l to mp9712L	Not available	Based on sizp09 to sizp26
No of changes in status over whole of labour force history	chstat2	Changes between five statuses over whole period	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26
No of changes in status over whole of labour force history	nlchst2 frchst2	Uses country-specific categories for changes in status	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26
No jobs since leaving school	nojob	Number of different jobs from time of leaving school to time of survey.	Not available	Not available	Not available	Derived from mdemp__1, ademp__1, mfemp__1,afemp__1
Time to first job	timejob	Time taken to enter employment (or apprenticeship) from June of the school-leaving year	Based on L11_1 to L11a_20	Based on mp9606l to mp9712L	Not available	Based on sizp09 to sizp26
Time to first job	rtimejob	Time from leaving education to first job	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
Proportion of time in specified statuses: Employment Unemployment	premp prun	Proportion of time in specified status since June of school-leaving year	Based on L11_1 to L11a_20	Based on mp9606l to mp9712L	Not available	Based on sizp09 to sizp26
Proportion of time in specified statuses: Employment Unemployment	rpremp rprun	Proportion of time in specified status since leaving education	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26
Unemployment:						
Duration of current spell	durat revdur	No of months currently unemployed; revdur ..cts <0.5 month.. to 0.5 months	Based on L12b and msurv, yrsurv	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26
Receipt of social welfare payments (unemployed only)	welfare	0. No payments 1. In receipt of payments	Based on L12c and L12d	Not available	Not available	Based on indemc_1
Ever unemployed since June of school-leaving year?	everun	0. Never unemployed 1. Employed (one or more spells)	Based on L11a_1 to L11a_20	Based on mp9606L to mp9712L	Not available	Based on sizp01 to sizp26 variables
Ever unemployed over whole period?	reverun	0. Never unemployed 1. Employed (one or more spells)	Not available	Based on mp9509L to mp9712L	everunz * FU var for S6 leavers only	Based on sizp01 to sizp26
No of previous spells since June of school-leaving year	unsp	Number of previous (separate) spells unemployed	Based on L11a_1 to L11a_20	Based on mp9606L to mp9712L	Not available	Based on sizp09 to sizp26
No of previous spells over whole period	runsp	No of previous spells unemployed	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26
Amount of time spent unemployed since June of school-leaving year	dursp	No of months unemployed	Based on L11a_1 to L11a_20	Based on mp9606L to mp9712L	Not available	Based on sizp09 to sizp26
Amount of time spent unemployed overall	rdursp	No of months unemployed	Not available	Based on mp9509L to mp9712L	Not available	Based on sizp01 to sizp26

1162

1163

continued

VARIABLE	VAR NAME	VARIABLE CATEGORIES	IRELAND	NETHERLANDS	SCOTLAND	FRANCE
			Filter variables			
Remove those in continuing education	edfilt	Select if (edfilt eq 1).	L11a_5	Mp9610L	Dooct	Sizp13
Principal activity is employment	empfilt	Select if (empfilt eq 1).	Activ	Activ	Activ	Activ
Eurostat definition of paid work	hrsfilt	Select if (hrsfilt eq 1).	Hours	Hours	Hours * Problem of truncation	Hours
Principal activity is employment, apprenticeship or scheme	wkfilt	Select if (wkfilt eq 1).	Activ	Activ	Activ	Activ
Lower level leavers	lilfilt	Select if (lilfilt eq 1).	Levvtlmt	Levvtlmt	Levvtlmt	Levvtlmt

Missing values (for all):
-9= not answered
sysmis=not applicable

Education and labour market change: The dynamics of education to work transitions in Europe* A review of the TSER Programme

Damian F. Hannan, Patrick Werquin

Abstract

The education/employment relationship and the transition from school to work has been the subject of substantial research over the last decade. This is mainly because of its priority in policy making for a number of reasons (see paper).

One of the main policy research questions remains whether there is one or a number of different and equally effective solutions to these problems in different EU countries.

The underlying sources of these difficulties in different country labour markets within the EU are difficult to disentangle. They are not equally serious in all countries. They also tend to have different patterns in different countries, and there is no agreement on the exact source of the relative lack of job vacancies for young people.

Successful policy interventions also tend to differ across countries. Not all EU countries reacted the same way to the crisis, nor do or can they have the same kind of effective policy solutions: the seriousness and nature of the problem varies across countries; countries have different youth/age profiles, somewhat different economies, and clearly different institutional systems.

In these circumstances comparative cross-country research is of particular interest to learn to what extent and why some policies appear to be generalisable, while others appear to be effective only in particular country/institutional contexts[2].

This requires that research should aim at a clear understanding of the impact(s) of institutional contexts on education and training (ET) and labour market (LM) outcomes.

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1166

Table of contents

1. Introduction 93
1.1 The policy contexts of education to work transitions 94
1.2 Demographic and economic context 98

2. National institutional differences 99

3. Changes in labour market, skill demands and relationship to education/ training outputs 101

4. Conceptualising and measuring skills, 'skills gaps', changing skills requirements; and corresponding educational/training qualification levels 106

5. Education to work transitions 110
5.1 Conceptual and methodological approaches 110
5.2 State strategy 114

6. Evaluation and effectiveness research 116

7. Class and gender inequalities and social exclusion 119

8. Conclusions and issues to address in the next TSER programme 121
8.1 Educational level and labour market success 123
8.2 The content of education/training and occupational/job congruity 123
8.3 Youth schemes, evaluation and selectivity biases 124
8.4 Earnings 126
8.5 Data issues 126

Bibliography 130

Acronyms and abbreviations

Bac	Baccalauréat (France)
BEP	Brevet d'étude professionnelle (first French vocational level)
CATEWE	Comparative Analysis of Transitions form Education to Work in Europe (TSER project)
Cedefop	Centre européen pour le développement de la formation professionnelle (European Centre for the Development of Vocational Training)
Ciretoq	Cedefop network
COMPETE	Competence Evaluation and Training for Europe (TSER project)
DELILAH	Designing Evaluating Learning Innovations and Learning Applications (TSER project)
DG	Directorate General
ET	education and training
EU	European Union
Eurostat	Statistical Office of the European Union
EVALUE	Evaluation et auto-évaluation des universités en Europe (TSER project)
LM	labour market
NatCCC-PS	New Assessment Tools for Cross Curricular Competencies in the Domain of Problem Solving (TSER project)
OECD	Organisation for economic development and co-operation
STT	Schooling, Training et Transitions (TSER project)
TSER	Targeted Socio-Economic Research
USA	United States of America
UK	United Kingdom
VTLMT	Vocational Training and Labour Market Transitions (Leonardo project)
WORKTOW	Working Life Changes and Training of Older Workers (TSER project)
LFS	Labour force survey
IALS	International Adult Literacy Survey (OECD project)

167

1. Introduction

This paper has three main objectives:

a) It reviews the main research findings, conclusions and general direction of the Targeted Socio-Economic Research (TSER) Programme under the Fourth Framework Programme of DG12, dealing with research on education/employment relationships and, in particular, transitions from education to work in Europe and places it in the context of the wider research literature and policy priorities in the area;

b) It highlights the main areas where policy needs are well served by research, and other areas where research is poorly developed;

c) It suggests the main areas of research and policy analyses that need to be addressed in the next 5th Framework (TSER) Programme (1998-2002), particularly under the Horizontal Programme for Improving the Human Research Potential and the socio-economic research base. (O.J. c506/99, 13.01.1999).

The paper does not attempt to evaluate nor comprehensively review the main TSER research on education-employment relationships, but to summarise the main findings in the context of comparative European research and related policy preoccupations on the relationships between education/training system outputs and labour market entrants and outcomes at an individual and system level.

The education/employment relationship and the transition from school to work has been the subject of substantial research over the last decade. This is mainly because of its priority in policy making for a number of reasons. Firstly, most European countries have had persistent high youth unemployment rates for almost two decades, with the time between leaving full time education and securing a regular job also increasing significantly. With a substantial proportion of young people entering the labour market (LM) either never finding secure employment or being intermittently unemployed – particularly amongst the least educationally qualified – both policy makers and researchers have focused a lot of attention on the initial school-to-work transition process. Initially substantial state investments occurred in LM interventions such as state employment and training programmes, but gradually shifted to more active and more effective labour market interventions as the long-term secular rather than temporary nature of the labour market problem became increasingly apparent. As a result, in many EU/OECD countries participation in such state programmes became a regular feature of many young people's transition between leaving full time initial education and either getting a regular job or effectively withdrawing from active participation in the labour market. Besides the immediate social consequences of such effects, these issues are of continuing policy relevance since, when economic growth resumes, countries will need a full working population complement in a situation of generally low replacement rates. Even in present circumstances labour shortages have emerged in some countries such as the Netherlands, so that state and European Union (EU) policy needs to be geared to address the medium to long term effects of declining demographic trends with improving economic growth.

Besides the current employment crisis, a rapid upgrading of education and training (ET) is required in most EU countries given the poor competitive position of EU countries for low skilled production and high global competitiveness for high skilled production and services, particularly from the USA and Japan. Given these policy priorities, transition from school to work has become a very important policy issue in most EU countries. One of the main policy research questions remains whether there is one or a number of different and equally effective solutions to these problems in different EU countries.

The underlying sources of these difficulties in different country labour markets within the EU are difficult to disentangle. They are not equally serious in all countries. They also tend to have different patterns in different countries, and there is no agreement on the exact source of the relative lack of job vacancies for

1163

young people. Successful policy interventions also tend to differ across countries. Not all EU countries reacted the same way to the crisis, nor do or can they have the same kind of effective policy solutions: the seriousness and nature of the problem varies across countries; countries have different youth/age profiles, somewhat different economies, and clearly different institutional systems. In these circumstances comparative cross-country research is of particular interest to learn to what extent and why some policies appear to be generalisable, while others appear to be effective only in particular country/institutional contexts[1]. This requires that research should aim at a clear understanding of the impact(s) of institutional contexts on education and training (ET) and labour market (LM) outcomes. The main aim of this paper is to summarise some of the main lines of comparative European research on school-to-work transitions, with particular attention to research on these issues funded by the European Commission under the Targeted Socio-Economic Research (TSER) Programme of DGXII.

This paper has 8 sections:

1) The wider economic and policy context within which research on education to work transitions takes place.

2) A set of categories is proposed to define between country difference in national institutional arrangements.

3) The nature and extent of change in economic or labour market demands for different kinds and levels of education/training or skills/knowledge; as well as the extent these might vary across different labour market systems.

4) Changes in education/training outputs and the relationships and linkages between the ET system and changing labour markets and employers/firm behaviour; as well as the extent to which these also might vary across different national ET institutional systems.

5) Comparative analyses of the nature, extent and severity of educational and labour market failure/exclusion and the associated social exclusionary processes; as well as the relative effects of national institutional systems on such processes and relative effectiveness of interventions.

6) Research on the effectiveness of education/training programmes and of labour market intervention programmes.

7) Gender and class inequalities.

8) Conclusions, and proposals for future comparative research and policy analyses work under the aegis of the V[th] Framework Programme of DGXII: Improving the Human Research Potential and the Socio-Economic Knowledge Base (1998-2002).

1.1 The policy contexts of education to work transitions

Increasing globalisation and competitive pressures combined with rapid technological change[2] have, according to conventional economic wisdom, made education and training – human capital growth – of increasing if not paramount importance in securing modern economic growth.

State policy responses to the growing unemployment crises of the 1980s and early 1990s gradually changed over time to a recognition that the problem was not only cyclical and, therefore, could be adequately handled by temporary employment/training measures, but was also structural: with rapid technological change and increasing competitive pressures bringing about long term secular declines in certain industries and unskilled and semiskilled occupations. This realisation shifted policy emphases to supply side meas-

[1] Research on youth unemployment has largely used the fact that minimum wage has been lowered in the Netherlands without any clear evidence of success in terms of unemployment. The idea of the labour being too expensive for young people does not seem to work from the Dutch experience.

[2] See comprehensive review by Lundvall and Borrás (1997).

1169

ures in education and training and to active labour market programmes. The main concerns were not only that the ET system was not changing fast enough to keep pace with rapid economic and technological change, but that changes in the organisation of production itself would also be necessary to guarantee continuing competitiveness. (Janoski, 1996; OECD, 1995; EU, 1994; O'Connell and McGinnity, 1997).

The European Commission's White Paper (1993) on *Growth, Competitiveness and Employment*, following on the Copenhagen summit, proposed a number of policies to tackle the EU economy's slowdown, with increasing unemployment and declining competitiveness. This White Paper was more innovative than preceding EU documents. Three chapters appear most relevant: Chapter 7 deals with education and training system, chapter 8 on the link between job creation and economic growth, and chapter 9 on labour costs (see also Meulders, 1998).

With an increasingly more knowledge-based economy, an accelerating pace of technological change – and consequent changes in jobs, firms and ET requirements – the necessity for substantial change in ET policy was proposed. This was proposed as necessary both to increase the level of knowledge/skills of the youth labour force, but also to change radically the nature of the 'once-and-for-all' full time ET provider systems, toward a more open and more flexible one.

This was seen as necessary both to increase the chances of returning to post-school education/training and to orient systems of ET provision more toward life long learning and continuing re-education/re-training (p. 16). In addition the White Paper emphasised the necessity to substantially reduce the level of educational failure/underachievement amongst school leavers in most European countries and to improve transitions to work. In pointing to the very negative unemployment and other economic and social marginalisation effects of educational failure, and the subsequent difficulty in re-integrating such poorly educated youth back into the society, the White Paper prioritised the need for effective educational interventions (p. 124). Besides these obvious negative effects of educational failure and the necessity to effectively tackle its causes, the overall rapid pace of economic/technological change required much more forward planning than previously; hence the priority placed on research and new knowledge on occupational/work changes and attendant ET requirements. The increasing dynamic relationships between the ET system and the employment system in modern economies also required much greater levels of co-operation between them. But also much greater responsiveness and flexibility in instructional/learning and qualification systems to the changing economic/employment needs; as well as to the individuals needs for re-education and re-training over the life-course.

The White Paper also suggested the necessity for improvements in the fit between the tax and social protection system and employment in order to encourage job creation: suggesting, for instance, a decrease by 2% in social insurance contributions. and targeting it on youth and low skilled employment. It also suggested policies to reduce the disincentive effects of unemployment benefit on job search – though a clear disincentive effect of unemployment benefit has never been proved.

In addition to increasing the sensitivity of tax/insurance systems to LM needs, increased LM flexibility and less regulation is suggested to help creation of part-time and temporary contracts etc. as well as workers' temporary withdrawal on a voluntary basis from the LM (e.g. for sabbaticals, training etc.). In addition improvements in active labour market policies and in employment/job placement processes/agencies are suggested.

In addition to lowering tax/insurance contributions, a slowdown in wage increases was suggested, with wages not allowed to increase more than the increase in productivity. The level of wages appeared to be perceived to be one of the main reasons of low job creation, with minimum wage regulation/legislation also perceived as constraining employment growth. Again, none of these policy recommendations have any solid basis in the research/econometric literature. On the contrary, in the

meantime, recent OECD publications (*Employment Outlook*, 1998) have been more than cautious about the minimum wage as a general brake on jobs creation.

Following along the lines of the White Paper suggestions, the Essen Summit (1994) adopted five priorities in December 1994:

a) Improving the employability of the labour force through the promotion of investments in vocational training. Young people to be especially targeted.

b) Increasing job creation associated with economic growth through a greater flexibility of the labour force, by increasing wages by less than productivity growth and by encouraging regional and local initiatives, especially in the fields of new jobs (environment, social services etc.).

c) Reducing the labour cost, especially for unskilled jobs.

d) Improving the efficiency of public employment policies by switching from passive to active policies.

e) Improving the targeting of intervention programmes for those most affected by unemployment: young people, long term unemployed, unemployed female and older unemployed people.

The White Paper of the European Commission (1994) on *Education and Training: Toward the Learning Society*, proposed four main policy priorities. Firstly it indicated the necessity to have a balanced set of ET policies which both emphasised the necessity for increasing levels of general education combined with an increasing mix of employment linked vocational training in ways that minimise the dominating status/ethos of the former. In addition the White Paper (1994) recommended the creation of new and bridging curricular/course and assessment/certification arrangements between the two, normally divorced, education and training provider systems. The creation of new and more effectively integrated pathways between the different education and training systems, and the creation of a more open and flexible life long learning system is one of the main policy aims of the paper. Thirdly the necessity to anticipate and to adequately provide for new knowledge/skill needs was emphasised, as technological change accelerates and the necessity for constant upgrading of the workforce requires substantial changes in both the state and EU policy and ET provider systems. Fourthly the necessity for state and EU policy making, and budget allocation, as well as private sector employers, to more adequately recognise the necessity to treat human capital investment with the same priority as physical capital investment was emphasised. Finally the White Paper emphasised the necessity for states and the EU to prioritise interventions to radically reduce the level of educational failure and the resultant high levels of unemployment and social exclusion characteristic of most EU states.

After the Essen summit the next step was the Amsterdam summit in June 1997. A new chapter on employment appeared in the New Treaty for Europe; unemployment becoming one of the main policy priorities for the EU. Following the Amsterdam Treaty, the first European Summit for Employment was held in Luxembourg in November 1997. At this occasion, 4 guidelines were adopted:

a) Improving employability. This guideline follows previous White Papers' ideas on training and active LM policies.

b) Encouraging entrepreneurial activity: by simplifying regulations, improving access to funding, tax reductions etc., and by developing local initiatives.

c) Improving the adjustment capability of employers and employees: by modernising work organisations through increased flexibility, reduction of the number of hours worked; reducing over-time and increasing part time work; facilitating temporary withdrawal from the labour force and encouragement of retraining and life long learning etc.

d) Strengthening gender equality in the labour force; and improving the linkages between family life and working activity.

The Targeted Socio-Economic Research Programme (1994-1998) proposed by DGXII invited proposals for research from the European research community on three main areas of economic and social research: in science and technology policy, ET and LM integration, and social integration and social exclusion. The increasingly severe economic and social problems facing European societies required a more co-ordinated and better funded and targeted research and policy response than hitherto. Increasing global competitive pressures, the necessity for continuing productivity growth, the consequent need to expand and improve the effectiveness of European ET systems and the necessity for ET systems and enterprises to adapt readily and effectively to rapid technological and economic change to ensure sustainable long term growth, all indicate the necessity for co-ordinated, effective comparative research for national and European policy making.

EU economic growth increasingly depends on scientific/technological development, education/training systems which encapsulate this into human capital growth, and the development of a market and institutional framework which effectively integrates both into modern productive economies and welfare enhancing civil societies. To do this research needs to be of high scientific quality, comparative, have significant added value and help develop comparative data bases and effective and comparative conceptual/theoretical models and methodologies (TSER programme).

Besides the economic growth imperative high levels of persistent unemployment and associated economic and social exclusionary pressures in most EU countries also emphasise the necessity for high quality comparative economic and social research on national similarities and differences in the effectiveness of economic and social policies in tackling such exclusionary processes (TSER, 1996). The threats to equality of opportunity and to economic and social cohesion not only place European civil society under increasing pressures, but directly breach some of the central values and goals of European integration.

The main objective of the TSER (1994-1998) research programme was to build up both the knowledge base and research infrastructure for high quality, policy relevant, comparative European socio-economic research at both national and Community level. In Area II, education and training, the objective is to help link advances in science and technology and rapid economic/technological change to the effectiveness of the linkage/relationship between ET systems – in building up human capital stock – and labour market entry and in-firm insertion/training processes in attracting and using high quality labour. Within this broad area of research the Programme had three main objectives – to strengthen the European research base and improve communication and networking amongst European researchers, to develop and strengthen the knowledge base and to improve its quality and comparability, and help apply it to the challenges facing European economies and societies.

There are three main objectives of TSER Area II (Research in Education and Training):

1) the nature and extent of skill change and of labour demand in the economy and the effectiveness and nature of the responsiveness of ET systems to these changes;

2) The development of ET effectiveness/evaluation models and methodologies – both in terms of conventional schooling/training as well as in life long learning/instructional arrangements;

3) Transitions from school to work, and the nature and extent to which ET systems and their relationships to employment systems positively or negatively affect inclusionary or exclusionary processes.

Even before EU and OECD prompting, most European states had instituted substantial changes in educational and training arrangements and in the level and length of participation in initial full-time education and training. So substantial expansion in educational participation at upper second level and third level had occurred in all EU countries, though significant national differences still exist in

1172

the nature, pace and extent of change in all these respects. In many countries the rapid increase in the level of education of the youth labour force has outdistanced the changes in occupational demand as previously defined – with significant 'educational upgrading' of many low and medium skilled occupations (Robinson 1997; and work of Ciretoq network); with most of the upward shift in the educational level of the work force occurring within existing occupations rather than in the expansion of new or more technologically advanced ones. Besides the concern about under-qualification, therefore, some concern has also been expressed about the extent of 'overqualification' amongst the young work force, and under-utilisation by firms of this newly upskilled and better educated young labour (Krahn, 1997; Ashton and Green, 1996; 1997). The extent to which and the effectiveness with which employers use the substantial recent improvement in human capital in their recruitment, training, work allocation and promotion policies, and in their general human resource management and innovation processes, deserves equal attention in policy and research agendas as do ET policies and practices.

To conclude then, the TSER research programme (Area II) has substantial complementarity with the policy priorities of the various EU White Papers on education/training and labour market integration policy. Despite the evident weakness of research/policy institutional linkages at EU level – compared to its national or OECD equivalents – at least the content of economic and social research promoted by TSER (DGXII) appears relatively closely linked to EU policy priorities.

1.2 Demographic and economic context

The demographic and economic context within which change is occurring is now described according to the main usual sources such as Eurostat and OECD, as well as a number of TSER funded projects.

The economic and socio-demographic contexts within which school-to-work transitions occur within Europe have changed significantly over time, and these changes also vary significantly from country to country. Four aspects of these appear most relevant:

1) relative youth/adult demographic and unemployment rates and characteristics;

2) significant increases over time in the median ages of entry to the labour market, as young people stay longer in full-time education and search longer for a permanent acceptable job, but also increasing variances in the age of entering the labour market;

3) wide national differences in unemployment rates by level of education (Eurostat, 1996 and 1997; Freysson, 1997; OECD, 1996 and 1997).

4) Finally there is a significant growth in the extent to which 'mixed statuses' (e.g. work and education) occur, particularly amongst those completing upper second level education/training as well as those going on to third level education.

Not only is the demographic and economic context within which transitions are being negotiated rapidly changing over time and highly variable across countries, but the shape and nature of that transition itself is also radically altering. It is significantly lengthening, and the socio-cultural and institutional context within which that lengthening socialisation occurs is also rapidly changing. Transition is no longer easily conceptualised as a 'rite of passage', or relatively unproblematic status change from dependent youth to independent adult statuses. It is now one in which the 'youth stage' is continuously being extended, mostly outside familial control; and in which educational and work roles are increasingly intermixed and negotiated or constructed over a much longer time period in the more family-independent contexts of educational institutions, stronger peer groups and part-time work roles. This 'youth/adult' stage of intensive socialisation, now less culturally reproduced than in previous generations, occurs in a much less predictable and controlled environment than previously. Besides these more general socialisation trends in transition, there are however very significant differences in the demographic and economic contexts within which such youth/

adult transitions occur in most European countries.

There is very wide national variation in the proportion of 15-29 year olds in the total population, as well as the relative size of youth inflows into the labour force across the European Union. This age group comprises only 22-23 percent of the population in Germany and Finland, but over 32 percent in Ireland (Freysson, 1996). So the relative size of the youth inflow into the labour force has different economic and policy implications in different countries; particularly so if one also includes in the equation the extent to which the older outflow on retirement comes from economic sectors – like agriculture – which are not being reproduced (as in Portugal, Spain, Greece and Ireland, for instance).

Allied to the demographic variable is the relative difficulty of access to the workforce faced by young people, or the relative ease of job loss, compared to older people. This also varies substantially across the Community: with the relative youth/age unemployment risk for Ireland for instance being twice that of Germany or Austria (Freysson, 1996). It is hypothesised that the extended apprenticeship arrangements of the former countries provide a more highly institutionalised, segmented, 'protected' and secure labour market access route for young job seekers (Müller and Shavit, 1998).

Finally the rate of return – in employment terms – to increasing educational levels also varies substantially across countries for youth entry cohorts: from around a 4/1 unemployment ratio between those with third level qualifications and those with less than upper second level in Ireland, to 3/1 for Germany and Denmark and less than 2/1 for the Mediterranean countries (OECD, 1997; Freysson, 1996; Eurostat, 1997). These differential employment returns to increasing levels of education are not highly correlated with national rates of completion of upper second level education (i.e. with their relative scarcity) as one might expect, with these rates being maximised in Germany, the Benelux, Scandinavian countries or France, and lowest in Portugal and intermediate in the UK or Spain. In the former countries, however, such qualification rates had already been very high by the mid 1980s, while quite dramatic changes have occurred in the level of education of youth cohorts in Portugal, France, Ireland and the Mediterranean countries. These rapid changes imply substantial young/old employee replacement issues within firms and between old and young industries etc. in these latter countries, with the consequent implications for human resource development and management within firms.

2. National institutional differences

There are substantial differences amongst countries in how they responded to this unemployment crisis and to secular economic change – not unexpectedly given the substantial economic and institutional differences amongst European countries, not only in their ET systems but more importantly in the interconnections or linkages between the latter and the main economic agents. In addition not all EU and OECD countries have moved in the same direction or at the same speed toward to a high skill and high value added production system (Ashton and Green, 1997; Steedman, 1997; Steedman and Wagner, 1987, 1989).

There are least three respects in which national differences in education/training systems in Europe make it unlikely that the same policy priorities can be implemented in the same way in all countries:

a) Their degree of *institutional differentiation* – at both lower and upper second level, with very clear 'tracking' from ages 11/12 onwards in Germany and the Netherlands for instance, and comprehensive systems at least up to age 15/16 in France, Britain and Ireland;

b) The extent of *institutional linkage* between the ET system and the employment system. This may be highly linked/coupled as in the German dual system – with a substantial degree of ET provision being jointly provided in the apprenticeship system. At the other extreme, the ET and LM

systems may be completely 'de-coupled'; with an institutionally separate educational system providing educational outputs or qualifications which are then 'marketed' in a separate labour market.

At one extreme the German dual system – provides a model of a highly differentiated ET system from the beginning of second level education, which at the same time provides the strongest connection/linkage between employers and education/training providers in the apprenticeship system. At the other extreme are the comprehensive and relatively undifferentiated ET systems of some of the Scandinavian countries, or more weakly (at upper second level education) as in Britain, Ireland and France. Here there is a much weaker linkage with the labour market.

c) Finally, compared to the American/Canadian ET systems most European systems are highly *centralised and standardised* (in curricular/pedagogical and examination/certification terms). In these respects the significance of examinations/qualifications, and of examination grades, are likely to be far greater in European countries than in the unstandardised American second level system (Rosenbaum and Kariya, 1991; Kerchoff, 1990, 1995; Breen, Hannan and O'Leary, 1995). Some significant differences amongst European countries, however, exist in both the nature and degree of differentiation of examination/certification, and in their significance in the labour market: the extent of differentiation in examination grades, for instance, being highly variable, as well as their use/significance in selection for further education/training and entry to the labour market (Breen, Hannan et al., 1995). Recent work also shows that such standardised and certified examination grades are important to employers even amongst lower level school leavers (Hannan et al., Leonardo, (VTLMT), Final Report, Dec. 1998; Smyth, 1998; Becker and Rutjes, 1998).

Given these wide institutional differences amongst EU countries in their ET systems and in the nature and degree of interconnection between the ET systems and their LMs, we do not assume in this paper that one system is necessarily more effective than another in terms of either generating high levels of human capital or of inserting it into the labour market: i.e. that functionally equivalent mechanisms of both generating and integrating human capital into the economy are likely to occur across the different EU countries. What seems to be crucial in building up and maintaining a high skills, high value added production system, is the construction of strong systemic relationships between the education/training provider system and the main economic actors (individual or corporate) – but that there are many different institutionalised ways in which this can occur. This may be done by the highly regulated German dual system model, or by the semi-corporatist and formalised Dutch model of high 'occupationalisation' of the labour market dependent on a supply of specifically educated/trained labour from the full time educational institutions; or the almost equally corporatist but more informal linkages of the Japanese models (see Hannan, Raffe, Smyth, OECD, 1996; OECD, *Employment Outlook*, 1997). And, given the success of the American model – with an almost completely de-coupled ET system with minimal standardisation at primary and second level, obviously there is something they are doing right – though most analyses would suggest that this occurs mainly at third level. Successful European type models appear to be characterised by a much higher level of integration/co-ordination between the state, education/training providers and employers – particularly for countries that are 'late starters' or those rapidly adjusting to modern economic competitiveness. Significant government planning, regulation, investment in and co-ordination of education/training, combined with corporate agreements with employers, education/training providers and trade unties etc. appears to characterise many of the most successful European economies, particularly as economies move into high value added production. (Ashton and Green, 1996). Recent research throws a lot of cold water on the older orthodox neo-liberal economic theories of economic development, showing no clear relationship between neo liberal or modern (European

1175

type) corporatist models of state/economy relationships and economic or employment growth. (OECD, *Employment Outlook*, 1997): that both are equally likely to be effective, though in substantively different national cultural, institutional and historical contexts.

If we assume the continuing significance of national institutional differences in ET and LM systems, which most current studies support (Shavit and Müller, 1998) – though with some growing similarities as mass educational participation extends to third level and increasing global competition forces adaptation – then the 'dual system' and Dutch education/training (ideal type) models will remain quite different from those countries with more 'general education' type ET and LM models: where most specific occupationally relevant training takes place within firms. If this remains the case then the greater degree of both 'level congruence' and 'content congruence' (Almendinger, 1989) between ET outputs and labour market integration outcomes, will continue to remain much stronger in the former countries. (Shavit and Müller, 1998). However, it is important to get clearer conceptualisation and measurement of these educational/working relationships. It is clear, for instance, that there are analogues or 'functional alternatives' to the greater 'content congruence' of 'dual system' countries existing in the more general educational/training systems; but these may not be measured by conventional variables. For instance, it is clear that those students who do choose to take a greater concentration of vocational/technical subjects at second level do appear to increase their probability of escaping low skilled and insecure employment, controlling for other educational achievement differences. (Müller and Shavit, 1998; Hannan et al., VTLMT, Leonardo final report, Dec. 1998). However, it is also appears clear that greater labour market competition occurs between school/college leavers for the same occupational niches in the more general educational countries, particularly at the beginning of the occupational career and particularly for low skilled jobs (Borghans, Hughes and Smits, 1998; Hannan, Raffe and Smyth, 1996; Hannan and McCabe, 1998).

As will become clear in the next section, if most secular change in the technical characteristics of work – and therefore in its educational/training requirements – occurs within occupations, and by and large within firms rather than between firms, then it appears reasonable to conclude that the more closely linked the ET and employer systems are the more adaptable the overall system. However, the opposite conclusion has also been proposed: that the more general educational systems – providing higher levels of initial general education – give a better base to further in-firm training and retraining: though most existing cross-national data (OECD, *Education at a Glance*, 1997,1998) generally indicate higher levels of in-firm training in dual system countries. This is an area however, where good quality cross-nationally comparable data are very poor, and research rather limited.

3. Changes in labour market, skill demands and relationship to education/training outputs

To what extent does economic and social research lend support to the hypothesis of rapid technological, economic and occupational change underlying the substantial increase in the skill education/training requirements of the European work-force?

Research work carried out by LIRHE (University of Toulouse) and funded by Cedefop, and other work funded by Cedefop [3,4] shows clearly that the rapid growth in the supply of workers with higher educational levels across most EU countries has not been equalled by an equally rapid growth in those occupations which 'require' – or had previously required – such high levels of education/training (Béduwé and Espinasse, 1997; Monacorda

[3] Béduwé et al.

[4] This study was funded by Cedefop and directed by L. Mallet, Univ. of Toulouse. A brief summary is given in Béduwé and Espinasse, 1996. See also work by Ciretoq network also partly funded by Cedefop – e.g. Borghans et al., 1998.

and Robinson, 1996; Robinson, 1997). Considered over the decade from the early 1980s onwards, upward shifts in educational qualifications had been general throughout Europe, but most educational change over the period had in fact occurred within 'old' occupations rather than in new occupations, or growth in occupations that had previously required a high level of education. So, if we measure technological change as reflected in equivalent change in occupations with higher technological/training requirements, most of the educational change had not been due to technological/occupational changes in demand, but to changes in the relative supply of more highly educated labour.

This research, therefore, gives no support to the demand driven 'technological change' hypothesis: one that appears to underlie most of the EU and national policy documents. The alternative, 'credentialist' hypothesis – of an over-supply of highly educated labour being absorbed in occupations for which they are not in reality required, on the other hand – receives some support in these studies: provided one assumes that the task complexity, 'difficulty' and degree of responsibility of work tasks within similarly named occupations remains the same over time – say a 10 to 20 year period [5].

Most educational/training growth, in fact, appears driven mainly by other considerations, however: underlying, economic, political, institutional and socio-cultural factors such as higher youth unemployment and rapid expansion in upper second and third level educational provision partly driven by the necessity of keeping young people out of the labour market for as long as possible; some undoubted upward shifts in skill demands as well as high individual rates of return to increasing levels of education, and the obvious strong relationship between low levels of education and high unemployment/exclusion rates. In addition in many countries rapidly increasing levels of parental education also increase demand – the result of rapid expansion in second level education in the 1960s and 1970s in most OECD countries. So, at a minimum there is no evidence in these studies that skill shortages or skill deficits in general has significantly constrained higher/skilled occupational expansion (though this may well be the case in particular occupational/industrial sectors); and that such skill shortages have been significant in educational expansion. Indeed the opposite proposition is given significant support – that an increasing supply of highly educated labour has substantially outstripped conventional occupational demand (Ciretoq network research; Béduwé et al., 1998; Robinson and Manacorda, 1997; Steedman et al., TSER research 'Newskills'; Sofer et al., TSER research 'STT').

However, these studies do not show any decline in the individual earnings rate of return to more highly educated labour – as one might expect if the increase in higher qualifications were diffused evenly throughout the occupational distribution. Indeed there is significant evidence that educational inequalities in earnings returns have in fact increased in some countries over time (Robinson, 1997). Analyses of occupational/industrial differences in rates of return in earnings indicate that in the modern expanding corporate managerial and professional-technical occupations sectors, the rates of return to higher levels of education have in fact increased. In those intermediate (status) occupational niches, however, particularly in the services sector, where there has also been a substantial upgrading in the level of education/training of the workforce, there is some evidence of a relative decline in earnings returns to higher level qualifications. Some evidence, therefore, exists that it may well be the increasing supply of more highly educated la-

[5] The argument has also been made that since a significant proportion of 'future jobs' do not yet exist – and that, even within current occupations, job tasks are becoming more complex and more subject to change over time, it is necessary to produce graduates surplus to current or historical requirements. In addition such an increasingly highly qualified young labour force will over time influence occupational change and so influence the future demand side. Given rapid technological/occupational change, therefore, one could argue that it would be prudent to anticipate this and produce at least a temporary 'over-supply' of highly qualified school/college leavers.

bour that has facilitated such recruitment – particularly in occupations in the services sector where not previously required – and where such a recruitment choice would significantly decrease training costs for employers (Robinson, 1997; OECD, 1996, 1997 and 1998). No evidence here, therefore, in wage rates at least, of increasing productivity and technological sophistication within these intermediate service occupations, but more of a rational response by employers to an oversupply of more qualified labour where the relative price of such labour has decreased. Of course, as will be discussed later, the time that young 'over-qualified' people spend in such jobs may be restricted to a short period at the beginning of work life.

In a number of longitudinal/panel research studies on labour market transitions of school/college leavers over a 3-5 year, a majority of the more highly educated who initially took up lower status occupations, for which they were clearly 'over-qualified', subsequently became upwardly mobile out of them; with the rate of 'overqualification' declining rapidly with time in the work force. (See Hannan et al., 1998). Not only have employers upgraded their recruitment 'requirements' for intermediate and lower status occupations, but many of them – particularly in the 'secondary sector' – have transformed these occupations into temporary and part-time jobs, recruiting more highly educated school/college leavers on a temporary basis and 'churning' these jobs over for succeeding cohorts of school/college leavers – as well as substituting older and more highly educated women workers returning to the labour force on a part-time basis (Green, Ashton et al., 1997; Hannan et al., 1998). In periods of high youth unemployment, particularly in open economies – as in the English speaking countries, employers disproportionately pick young employees 'off the top' of labour queues. So, with increasing competition for non-skilled jobs from the more highly qualified, the less qualified tend to be disproportionately excluded from the work force in times of high youth unemployment. This process however does not appear to occur to the same extent in Mediterranean countries – where unemployment rates for recent graduates appear particularly high (OECD, EAG, 1996 to 1998; Schizzerotto and Cobalti, 1998).

There is some evidence for Britain and France that the 'closeness of fit' between level of education and occupational status of first job has declined over time.(Heath and Cheung, 1998; Goux and Maurin, 1998). This however does not appear to be the case for Germany, Müller, Steinmann and Ell, 1998). In addition there is clear evidence that the correlation between educational level and occupational status varies significantly across countries – particularly for first jobs: apparently greater in the more educationally differentiated and more 'occupationalised' labour markets (Shavit, Müller, 1998).

Of course occupational categories, especially highly aggregated one, include a wide range of work and firm situations. As a result many workers who may appear (statistically) to be 'over-educated' for their jobs/occupations may in fact be jobs that do demand their level of education/training. However, most studies on the earnings of people in jobs in which there are 'over-qualified' indicate a much lower rate of return to increased educational credentials than in 'matched' jobs. See review by Groot et al, 1998 in the STT, TSER project; Cohn and Khan, 1995; van der Velden and van Smoorenburg, 1997).

These changes in employers' recruitment behaviour and in patterns of access to employment are proposed to have a number of significant economic and social effects:

- Increasing levels of 'qualification inflation' and of competition for low status occupations from the more highly qualified have increased the labour market exclusionary pressures on the least qualified; particularly in the context of a decreasing supply of unskilled and semiskilled manual and service occupations. (These effects however appear to be nationally and institutionally sensitive).

- Lowering of rates of return to more highly qualified labour markets entrants to intermediate/low status occupations in non goods-producing sectors.

1176

- Potential lowering of upward – career and inter-firm – mobility chances amongst older and less poorly educated workers as the rate of increase of educational/training qualifications of the younger work-force disproportionately increases (Béduwé and Espinasse, 1997)[6].

Many studies of occupational/educational change and increasing 'overqualification' levels assume, however, that the same occupational titles/categories retain their content/meaning over time. However, a number of sociological studies of perceived skill requirements for jobs, both within and across occupations/industries, indicate that these assumptions may be invalid. (Ashton, Green et al., 1997). These studies have shown significant growth over time in required skill levels within occupations, both for occupational entry and to carry out work tasks: i.e. in skills/qualifications to get jobs, skills/qualifications necessary to carry out the work, extent of training needed to effectively carry out work tasks etc. (Gallie, 1991; Ashton, Green et al., 1997). With minor exceptions this growth in skill requirements, qualifications and training – and a set of social and other cross-curricular skills such as problem solving, communication and interpersonal skills, etc. – appeared to occur in a wide range of occupations, at least in Britain. Partly as a consequence of such change in skill requirements within occupations there was no evidence of increased levels of experienced/perceived 'overeducation' in jobs from the mid 1980s to the late 1990s – despite the clear evidence that most qualification growth in that period took place within occupations rather than in new occupational niches or in niches previously requiring higher levels of education/qualifications (Ashton, Green et al., 1997). These increases in skill requirements were experienced across most occupations/industries, with the exception of some industries in the non-exposed sectors.

Some of the comparative European research on this issue shows substantial inter-country variations in the linkages between educational level (and type) and occupational level or status achieved. British and French studies, for instance, show a significant decline over time in the correlation between level of education and the occupational standing or status of first job (Heath and Cheung, 1998; Goux and Maurin, 1998). German studies on the other hand not only show a substantially higher correlation between the occupational status of first and educational level achieved, but also show no evidence of any decline in returns to third level education –though a clear decline in returns to the completion of upper second level (Abitur) appears to have occurred (Müller, Steinmann and Ell, 1998). The institutional structure of education/work relationships in the German dual system countries not only appears to lead to much higher levels of correlation between the level and type of education achieved and the status and type of first job entered, it also appears not only to have led to much lower youth/adult unemployment ratios than in other systems but also to much less change over time – or economic cycles – in the returns to higher levels of education. (Konietzka and Solga, 1995; Müller et al. 1998; Shavit and Müller, 1998).

A significant number of TSER research projects directly address these issues of the relationship between growth in the level of skills and educational levels of the European workforce and concomitant occupational change[7].

[6] These and other recent studies of 'over-qualifications' and of competition between school/college leavers of different educational levels for the same occupational openings, repeat old themes from American research on the extent to which third level graduates take up 'high school' jobs. They also indicate however the necessity for fieldwork and research designs in studies of transitions to the labour market from third level education, for instance, to be based on samples of graduates from *both* third level and lower educational levels.

[7] The following is a list of the relevant TSER research project contract numbers together with the name of the main contractor, the title of the project and the years covered: 1. CT 95-2006; Steedman, 1997, LSE, London, 1996-1999, «*Education and Training, New Job Skills Needs and the Low Skilled*». 2. CT 97-2019, Hannan, ESRI, Dublin, 1997-2000, «*A Comparative Analysis of Transitions From Education to Work in Europe*». 3. CT 97-2023, Teichler, University Kassel, 1997-2000, «*Higher Education and Graduate Employment in Europe*».

1179

The partially completed work of the network of European researchers – from the UK, the Netherlands, Portugal, Sweden and France – working on the 'New Skills', TSER project (Steedman, 1997) includes analyses of:

a) the nature and extent of change in labour market demands in Europe,

b) the extent to which supply or provision of skills/competencies is changing to meet that demand.

c) Later work will explore the extent to which it is possible to specify a 'minimum learning platform' for EU countries.

Using LFS and IALS, individual level country data on occupations and wages etc., a series of 6 different across-country comparative research projects are carried out around three themes:

1) Changes in the demand for low skilled jobs (LFS), as well as other demand change in skill levels etc, particularly for new jobs/hirings;

2) Changes in the supply of more highly educated/trained labour, and particularly changes in post-compulsory educational participation; and

3) Earnings inequalities.

Three aspects of the findings are of particular importance:

i) There has been a significant decline in low skilled jobs over time, though this is not apparent in new hirings (in the UK).

ii) New hirings/jobs tend to have declined in relative terms over time – though this ratio is highly sensitive to the business cycle – and to be of lower skill and job complexity levels. Since these 'new jobs' are disproportionately concentrated amongst young school/college leaver entrants to the labour market there appears to have been a relative decline in the quality of such entry jobs over time – or at least from the early 1980s to the mid 1990s. New job tenures, for instance, appear to be fewer than the US, and appear to have decreased in relative terms since the mid 1980s.

iii) In relative terms wage rates for new hirings amongst younger workers have declined; with 'wage drops' more severe. So greater inequality in earnings have opened up over time; and in general a growth in poorer quality entry level jobs – more part-time and more temporary and a greater extent to which both of these are involuntary (Steedman, 1997).

Given these changes in the nature of demand, particularly for young entrants to the labour market, how has the supply of different educational levels been changing? Again the work of the 'New Skills' TSER project is revealing (Murray and Steedman, 1997). The analyses of the European Labour Force Surveys shows that all countries show substantial growth in educational participation rates at upper second level and higher, but that there are significant inter-country differences: the UK and Portugal have significantly lower upper secondary and higher education completion rates in the 26-28 year old age group. In Germany, France and the Netherlands on the other hand both state policy and institutional provision has been geared to maximise at least upper second level education and training provision/participation.

But even within these three countries very different policies and institutional arrangements underlie these provisions. Apprenticeships and other occupationally specific vocational education/training, shared instruction/training provision between employers and ET providers characterises the German dual system countries. An almost equally high degree of institutionalised agreement exists between both of these partners on both the content and quality of ET provision for a wide range of occupations in the Netherlands; though most education/training is provided in the full-time ET system. In both cases also a high degree of educational differentiation occurs at a very early stage in schooling – where students are allocated to different curricular tracks. Such occupationally specific education or vocational training assumes a high degree of concomitant 'occupationalisation' in the work place: of agreement amongst employers within industries of the division of labour and the broad content of different occupations etc. – as well,

of course, as the minimisation of 'free riders' in sharing training costs for the agreed set of occupations. In these training/employment contexts occupationally relevant 'qualifications', which are tradable across companies are the norm (Maurice, Sellier and Silvestre, 1986). France and Britain on the other hand show little if any educational differentiation at lower second level, and significantly less occupationally specific vocational training at upper second level – within the full time system. French policy and practice, however, is clearly geared to maximising upper second level, full-time education. Although with some vocationally relevant tracking at upper second level most vocationally relevant vocational training in France takes place within firms – with qualifications less tradable across firm boundaries. Britain, on the other hand, has geared a substantial proportion of post-compulsory educational and training policy toward both in-firm and other out-of-school provision for a substantial proportion of each youth cohort: though a much smaller proportion of this post-school and in-firm training appears to be tradable across company boundaries than in the German case. In all cases third level provision/participation has increased substantially over the past two decades.

Germany, the Netherlands and France have, therefore, clearly changed policy and ET provision and practice to a high skilled/educated young workforce, while other countries – like the UK and Portugal – have not to the same extent, with projections for 2020 showing these national differences continuing (Steedman, 1997; Steedman and Wagner 1987, 1989). Why do such national differences persist? Are they determined by governmental policy in terms of the provision/funding of places/institutions, or to what extent institutional or cultural – in choices made by families and pupils amongst the educational/occupational opportunities available? Obviously state policy, extent of resource provision, the extent and nature of alternative opportunities, but also the way parents and children react to or use the opportunities available, all affect outcomes. Such familial/pupil choices may be quite constrained as to whether one can freely go on to a comprehensively provided full-time education/training system to the completion of upper second level education: whether highly differentiated as in the Netherlands, or more comprehensively so in some Scandinavian countries, France or to a lesser extent in Ireland. In all these cases state policy and full-time educational provision is geared to maximise full-time participation to the end of upper second level education. Highly institutionalised apprenticeship training – in shared education/employer provision arrangements – characterises around half of German, Austrian and Danish upper second level provision. Britain's policy, although constraining full-time upper second level participation and optimising in-firm training and part-time education/training provision, does not result in equal rates of qualification from its education/training system as does Germany. Besides national institutional differences in such policy/provisions there are also very substantial differences in post-school, part-time provision: with the UK in general showing very high levels of such provision (Hannan, Raffe and Smyth, 1996; OECD, 1996; Kerchoff, 1995).

4. Conceptualising and measuring skills, 'skills gaps', changing skills requirements; and corresponding educational/training qualification levels

A large number of recent research studies, including ones financed by the TSER programme, deal with the conceptualisation, measurement and certification of knowledge/skill levels and types; and the way in which these are inserted into the labour market. Conventional schooling/training qualification/certification frameworks – mostly based on achievements in specific curricula/course assessments, have expanded to cover more general and more cross-curricular skills, less based on formal instructional/assessment processes. In addition the processes by which the skills/qualifications of those leaving full-time education/training and entering the labour market are matched up with subsequent jobs/occupations need to be studied in detail: from the purely 'open market matching' proc-

1191

ess characteristic of most entrants to the labour market in most of the English speaking countries, to the quite closely linked or 'matched' education/training and job entry processes characteristic of the German dual system countries (CATEWE project proposal, TSER, 1997). In the former case job offers and employers (buyers) decisions amongst those looking/searching for jobs (sellers) is a relatively autonomous decision making process in which the task complexity, responsibility and 'difficulty' of the job is matched with the 'required' knowledge/skills and competencies of job seekers through a generally unequal bargaining process – particularly in periods of high unemployment. With the exception of a minority of apprenticeship positions and of professionalised occupations or those with high levels of technical skill, this 'at arms length' and open market model would generally hold for the majority of such initial 'job search' transactions in English speaking countries and to a lesser extent in France. Here the education/training systems are largely institutionally de-coupled from the employment/production system. This is quite different to the German dual system, or the high degree of institutionalised employer/provider agreements in the Netherlands which underlie the provision of specific educational/vocational training for a large proportion of occupational entry positions.

The main starting point in sociology to this kind of research was the seminal work by Maurice, Sellier and Silvestre (1986) which, in comparing the French and German education/training and labour market systems, distinguished the high 'qualification space' relevance of education/training qualifications in the German system – a high degree of occupationally specific education/training linked with an equivalent 'occupationalisation' of its labour market (an 'Occupational Labour Market'); and the low degree of such cross-firm occupational specification of work in the French system, combined with a high degree of in-firm training and a more substantial in-firm career structure – 'organisational space' within internal labour markets.

A substantial amount of research work within this tradition has been carried out on the extent and nature of 'matching' between both the level and content of education/training received in full-time education and the subsequent extent it was 'matched' to the job/occupation entered. The sociological research refers both to the extent to which the 'level' of education and the level/status/'difficulty' of occupation entered was correlated – the extent and nature of 'level congruence' between education/training and jobs/occupations, as well as the extent and nature of 'content congruence' between the content of education/training received and jobs subsequently taken up (Almendinger, 1989 and 1997; Schupp et al., 1994; Konietzka and Solga, 1995; Müller and Shavit, 1998; Hannan et al., 1998). The main cross-nationally applicable hypotheses guiding the research is the significance of linked ET and LM institutional arrangements: i.e. in maximising both types of 'matching' in the German 'dual system' countries and the Netherlands (Müller and Shavit, 1998; Müller, Steinmann and Ell,1998); and the relative dominance of 'level of education' in job entry and occupational selection in the more 'open labour market' economies with minimal 'occupational labour markets' (Hannan, Raffe and Smyth, 1996; CATEWE TSER proposal, 1997, and 6 monthly report, June, 1998). The significance of these national institutional distinctions is clearly evident, particularly in the German/British and German/American comparisons – with the correlation between both level and type of education and occupational status and type being much greater in the German case – particularly for first jobs. (Müller, Steinmann and Ell, 1998; Heath and Cheung, 1998).

These national institutional differences in ET systems and their linkages to the labour market obviously have other effects which have also been studied in some detail – though the quality of cross-national data sets to adequately test the relevant hypotheses is rather limited. There are important policy areas where this research is very relevant:

- That both 'content' and 'level congruence' rates are greater in those countries with more differentiated/selective ET systems with elaborated and linked labour markets. (Almendinger, 11989 and 1997; Müller and Shavit, 1998). The matching of ET qualifi-

1182

cations with occupations is more efficient when institutionally mediated.

- That social class and gender inequalities in upper levels of educational achievement and in the quality of labour market opportunities are greater in more selective and differentiated systems. Early selection into different educational tracks, with their associated occupational outcomes, increases the overall degree of class and gender selection into upper levels of educational achievement. (Blossfeld and Shavit, 1993).

- However, this does not necessarily hold for educational and employment/social exclusion. Here the main hypothesis is that economic and social exclusionary processes – for those with lowest or no qualifications – are more severe in national systems were the educational systems are more general/comprehensive and labour markets are less occupationalised (Hannan et al., 1995; CATEWE proposal, 1997, and 6 monthly June report, 1998).

  This is hypothesised to occur for two reasons. Firstly in differentiated ET systems with strong vocational/technical options, early selection into such differentiated curricular tracks, although increasing the probability of working class children taking such options and consequently increasing class inequality at upper levels of educational achievement, does significantly increase the vocational qualifications and employment chances of such working class youth. In addition such vocationally relevant qualifications increase the chances of access to skilled occupations and secure job opportunities – significantly decreasing the probability of channelling into low skilled and insecure job sectors. (Arum and Shavit, 1995; Blossfeld, 1994; Shavit and Müller, 1998).

  Within general ET systems on the other hand, with low occupationally specific vocational training and minimal occupational labour markets, competition between job seekers with different levels of education for low skilled jobs is maximised – particularly at times of high youth unemployment. In the former countries the pronounced institutionalised connections between ET qualifications and occupational entry requirements significantly reduces competition from the more highly qualified for such low skilled jobs. The correlation, for instance, between level of education and occupational status of first job is much higher in Germany than in Britain or France. (Müller et al., 1998; Heath and Cheung, 1998). Although overall class and gender inequalities in educational/occupational achievement tend to be greater in the German system, the greater institutional strength of ET/Occupational equivalencies there tends to protect low skilled market entrants from competition from the more highly educated to a greater extent (Blossfeld, 1994; Arum and Shavit, 1995; Shavit and Müller, 1998).

Besides the issue of 'matching' educational outputs with labour market inputs the explicit study of skills and skills needs has been the subject of a lot of research (Green, Ashton et al., 1997). Two of the recently TSER funded research projects deal explicitly with this issue: 'COMPETE', *Competence Evaluation and Training for Europe: Assessing 'Skills Gaps'* led by the Tavistock Institute, London[8]; and NATCCC-PS, *New Assessment Tools for Cross-Curricular Competencies*, Federal Ministry for Education, Luxembourg, 1998[9].

The former study is about the processes of skills acquisition, of skill growth/up-skilling and technological change by firms. The way in which firms/organisations facilitate or constrain technological change, and up-skilling of the work-force is to be explored in depth. With an ageing workforce, around 80 percent of the work force in small firms, and most of these at least 10 years out of full-time education, but with a high percentage of firm technology now less than 10 years, old Europe faces a serious skills/training and competitiveness problem. 'Skills' in this sense is taken to mean not only the explicit knowledge and manual/technical/professional skills that can be taught through formal curricular/instructional programmes,

[8] Contract Number: ERB-SOE2-CT98-2038.

[9] Contract Number: ERB-SOE2-CT98-2042.

but also the often equally important implicit skills which are learned informally and that cross curricular/course and occupational boundaries. The returns to apprenticeship in Germany for instance, even in occupations for which not matched, suggest high returns to such cross-curricular and non occupationally specific in-firm learning. The issues of how to measure, accredit and certify such skills require attention (European Commission, 1995).

A rough categorisation of such general skills is proposed in the 'COMPETE', TSER project: basic or foundation skills, as well as learning models/orientations that lead to effective learning/re-learning; basic vocationally specific skills – such as basic literacy and numeracy; the effective use of modern information technology skills etc.; problem solving skills; complex social-technical skills – of how to work in the complex work environment – or skills in the application or operationalisation of knowledge in the workplace; plus a set of more general/implicit skills: – like social interaction and interpersonal relationship skills, personal resource management skills etc.

What are the likely effects of national/local ET institutional arrangements or national/local 'learning patrimonies' on both the effectiveness of learning of these skills and their integration into work life? These national instructional/learning systems reflect long historical processes which are sometimes very difficult to change. Besides the need for good comparative research and monitoring/evaluation of the outputs of the different EU educational and training systems[10] there is a clear need for further comparative research work on more general 'core skills' and cross-curricular competencies – such as the TSER project carried out under the co-ordination of Reef (Luxembourg) (ERB-SOE2 – CT98-2042).

Even in states with relatively de-coupled ET systems there tends to be strong reciprocal relationships between the educational/training systems and certain industries and firms – of skills growth and science/technology partnerships – particularly in industries subject to more rapid technological change as in chemicals, pharmaceuticals and computers etc.; less in the non competitive services where most small firms are located. However, there are clear national institutional differences in these respects, with much stronger ET and LM linkages in the dual system countries; particularly at the intermediate skills level. Obviously the way in which firms/industries divide up work into jobs/occupations, and how they define, assess, develop and use the 'skills' of their workforces will vary enormously. Some of variation is national – in the sense that the degree of cross-firm 'occupationalisation' of work will be greater in countries like Germany or the Netherlands – where there is also a high degree of occupational vocationalisation of education and training (Shavit and Müller, 1998).

The British vs. German, and Irish vs. Dutch and Danish studies on manufacturing industry and firm specific skills (Birnie and Hitchens, 1994; Steedman and Wagner, 1987 and 1989; Daly, Hitchens and Wagner, 1984) clearly indicate a much higher degree of manual skill precision and of supervisory/management skills in 'dual system' countries where both prior education/training and in-firm training is both more focused and more prolonged. However these studies cover a limited range of industries and firms. It appears that technological change can be built into training and retraining more easily and more formally in the dual system countries. On the other hand the dependence on higher levels of more general education in France, Ireland and to a lesser extent in Britain may mean a more flexible and more effective re-learning system in these firms – though the comparative data on in-firm training show much lower levels in both Ireland and Britain (OECD, EAG, 1995 to 1998; O'Connell, OECD, 1997).

[10] The European Network for educational research on Assessment, Effectiveness and Innovation (EU-AEI), in which all EU countries participate, has developed a framework on which all participants agree that the major areas in which monitoring of educational progress should be focussed. Initial statistics for most European countries are available on the Network's Web site. The final report of the network identifies three areas for urgent attention: a European instrument bank for educational indicators, development of measures of 'added value' in educational achievement, development and improvement of valid and culture fair tests of student achievement.

5. Education to work transitions

5.1 Conceptual and methodological approaches

Transition may be best considered at the individual, school leaver level as a configuration or sequence – without any implication of necessary order – of status changes over time through which young people move from participation in initial full-time education to a subsequent point at which they have achieved a stable status/position in the labour market – or have withdrawn permanently from participating in it. These status changes are not necessarily progressive or irreversible. One can, for instance, leave school at an early age, enter the labour market, become unemployed and again re-enter full-time education 5 to 10 years later.

The concept has its origins in the anthropological literature on 'status passages', or rites of passage, with previously dependent young people incorporated as independent adults into the tribe/community, usually through a highly ritualised ceremony. The older ideas presumed that both 'childhood' and 'adulthood' were unproblematic statuses which, in the more modern/industrialised cultures of the time, had a short intervening 'adolescent' period of revolt/growth before young people were successfully incorporated into adult society. The problem is that all these relatively stable 'stages' of being human obviously no longer exist in most industrialised cultures. Economies, cultures/ideologies keeps changing, what it is to be 'adult' keeps changing. School to work transitions, access to stable employment, sexual activity, courtship, living together arrangements, marriage and new household formation are no longer ordered/structured in the same way – or in the same order. (See Buck et al., 1994). The relationship of sexual activity and procreation to stable and institutionalised marriage relationships, for instance, is no longer structured in the same way; or the meanings, feelings and norms associated with these status changes are no longer socially constructed in such a consensual way as appeared to have been traditionally the case. Educational, cultural/normative and economic change – and even more substantial change in the relationship between the sexes – have so dramatically shifted the 'rules of the game', or the underlying principles of order, that these transition sequences have both become more individualised, and more variable than previously.

If one starts off from a position of a young person still in full-time education and we study only school-to-work transitions, at any one time subsequent to school/college leaving a person may be in any one of 5 broad statuses: initial job search, employed or unemployed, in full-time education, or left the labour force and not in full-time education. If we continue the sequence until the person has achieved a full-time 'permanent' job, or appears to have achieved another stable status (such as unemployment or withdrawal from the labour force), there can obviously be quite a wide range of status sequences – each status of varying length and order.

Figure 1 below briefly illustrates the possibilities with 3 years observation after full time education.

Statistical methods to analyse such transition sequences have become very sophisticated – from the older adaptations of factor and cluster analyses methods (to initially cluster/aggregate the total set of sequences into a smaller manageable group of categories), to 'event history models', to the newer optimal matching analyses models (Halpin and Chan, 1998).

At an individual level such variation in status sequences tends to be highly structured by level and type of education and training, with the more highly educated generally having shorter and more direct transitions to secure and status congruent employment (OECD, *Employment Outlook*, 1997, 1998). Exceptions being in Spain and other Mediterranean countries – though with long term high returns to the successful completion of university education (Sofer et al., TSER, TSS project[1]; Breen

[1] Contract number ERB-SOE2-CT95-2012.

1185

Figure 1

(i) *Education – job search .... stable employment.....(end of period)*

(ii) Education- job search...part time job.....unemployed...training scheme .....employed.....unemployed.....(end of period)

(iii) Education – job search...unemployed..... employed.....unemployed.....back to education .....(end of period).

(iv) *Education – job search, including part time jobs.....unemployed..... withdrawal from the labour force.....(end of period)*

(..... = no. of months in status; See Iedema et al., 1997).

et al., 1998; Minguez, 1998). Access to employment after a (generally) short period of job search is the usual situation for the majority of school/College leavers – particularly for the better educated (though mainly in Northern European countries), and particularly in periods of low unemployment. Unstable employment interspersed with periods of unemployment and periods on government funded training/employment schemes is a normal situation for the unqualified. Return to education is least characteristic of the initially poorly qualified. Withdrawal from the labour force is most characteristic of poorly qualified females with poor labour market histories.

Accompanying, and highly interrelated with, these basically economic status changes are changes in other important statuses: movement out of home and migration, new household formation – including housing rental/ownership status as well as in household property and consumption patterns, changes in sexual behaviour and relationships and in the establishment of stable unions or marriages and subsequent procreation behaviour, etc. Only a minority of studies have researched these patterns of change in detail (See British ESRC studies, Buck et al 1994; Iedema et al., 1997). There are significant national differences in these transition sequences – with such household formation changes sensitive to third level educational policy (in terms of expansion and so encouraging young people to leave home at an early age, for instance), but also to state family support policy – with young women for instance less likely to leave the labour force for family formation reasons in countries where family and child support policies help women to combine work and family and child-rearing roles (Iedema et al., 1997; Trappe, 1995; Trappe and Rosenfeld, 1998).

Theoretical developments have not kept pace in either economics or sociology with such methodological advances – at least not in the empirical literature. Underlying most of economic analyses in the area have been 'Human Capital' theories (Becker, 1973), which in the case of transitions essentially applies utilitarian neo-classical theory to explaining the motivations of learners – as to what and how much education/training they purchase, and the way in which the supply/demand relationship in the market between job-seekers and employers works out. Such theories are at two levels, the first being individual based and the second one at a more macro-economic level. They are not necessarily opposing – with the general lack of job vacancies (labour demand side factors), for instance, usually put forward well before individual skills and competencies (supply side factors) are put forward as causes of low job growth and high youth unemployment.

Sociological theories tend to be at a lower level of abstraction, quite applied to the research task at hand, with little even middle range

theorising – except at a higher (and usually non-operationalisable) level of abstraction. Many of the hypotheses flowing from the older functionalist modernisation theories have been rejected by the evidence, while many of the newer 'partial theories' – such as the 'increasing individualisation' hypotheses are not unambiguously supported by the evidence. (Furlong et al., 1997, 1998; Shavit and Müller, 1998; Iedema et al., 1997).

In its attempt to be universally generalisable human capital theories essentially ignore national differences in education/training institutions and in labour market institutional arrangements. The sociological literature has almost the opposite set of fault lines, tending even at its most sophisticated to be too focused on understanding and explaining national institutional differences, without successfully tackling the essential cross-country similarities in social patterns of education/training and labour market integration and in subsequent career mobility patterns (See Erikson and Goldthorpe, 1992; Shavit and Müller (eds.), 1998).

The set of theories relying on individual approaches start from a strong differentiation between individual job seekers. This individual level heterogeneity is usually advanced as the main cause of varying levels of access to work in a full-employment economy, or to high levels of unemployment when economic crises occur. In the latter case, employers are facing an abundance of job seekers and they may hire whomever they wish according to observed/perceived productivity characteristics – using their standards/norms of jobs/qualifications matches. One may note three main consequences of this individual oriented point of view:

a) Because none of the solutions used in the various European labour market interventions have proved to be really effective in tackling unemployment, public policy has more often than not focused on the definition of high 'at risk' target groups. Applied economists and sociologists have thus shown great ingenuity and ability in developing tools to both identify and help test the effectiveness of interventions with these 'at risk' groups; using highly sophisticated statistical or econometric tools. Equally the improvement of research designs and data collection, with the greater availability of longitudinal data particularly, has characterised research activities.

b) The bias towards individual level research is somewhat misleading, however, in terms of overall public policy: giving the impression that, since research is mainly targeted at the individual level, the main cause of unemployment are individual characteristics – and that public interventions should, therefore, be individually oriented. Initial education, training, improved circulation of information on availability of jobs, improved job experience and job search skills etc., are all very relevant, of course, but the overall lack of jobs is given by macro-economic conditions, and developing/changing individuals abilities merely shift the burden of unemployment around. Even if all young people were provided with adequate training and up-to-date skills, this would take quite some time to shift overall labour demand from the current situation to a full-employment one: even if such positive macro level employment effects were to occur.

c) The main rational economic reason for state intervention in giving young people access to such effective training or work experience – besides the equity arguments and the minimisation of the negative social effects of long term unemployment – is that, when economic growth resumes, countries may well need all the labour force available, given the downward youth labour supply curves in most EU countries. In other words, any response to unemployment based on correcting for an individual levels of heterogeneity of skill/competency – particularly for those with very low competency – although only initially leading to a re-shuffle of employment/unemployment, the policy does allow such otherwise excluded young people to learn more, to be more educated/trained and qualified and to have more work experience. As a consequence it does allow such young people not only to increase employment chances for

1187

them – though at a minimum this may merely shuffle the available jobs around – and reduce unemployment but also increases their employment chances when economic growth resumes.

Thinking in terms of individual difference, one may note that there is no uncontested evidence of a segmented youth/adult labour market. While there is evidence of a disproportionate concentration of young workers in low skilled service employment in most though not all EU countries (OECD, Employment Outlook, 1997,1998), it is also obvious that most of them appear to be upwardly mobile out of such employment in subsequent years – though a significant proportion of such low skilled service jobs appear to be continuously 'churned' amongst succeeding cohorts of young people: with the consequent employment exclusionary effects on the least qualified as they continue to fight for non-skilled jobs with succeeding cohorts of job entrants with higher levels of education (Hannan, Raffe et al., 1998).

Two related, recent theoretical orientations in sociology (Breen and Goldthorpe, 1997; Goldthorpe, 1998) have suggested some useful guiding theoretical orientations. Both distinguish between structure and agency. Structural variables index both the pre-established or ascribed order of distribution of resources/constraints of social background, schools attended and associated rule governed behaviours – or constraints on behaviour – that govern educational provision and its relationship to further education/training and labour market entry. In addition labour market opportunity structures tend to be structurally givens, particularly for young people who do not migrate. There are substantial international differences in both he nature and structure of educational-training systems and their relationships to local, regional and national employment systems. The Anglo-German comparisons are particularly revealing in these respects (see Bynner and Roberts (eds.),1991; Shavit and Müller,1998; CATEWE, TSER, project proposal and June 1998 report).

'Agency' refers to individual choices within the constraints (resources, opportunities) established. It is only within the constraints of local/regional educational, training provision and opportunity structures can individual behavioural strategies or individual/group 'strategic action' take place. The degrees of freedom which bound individual's or family's knowledgeable, planned, motivated action to achieve pre-planned goals – those 'transformation actions' which change otherwise apparently pre-determined outcomes – are severely constrained (Bynner and Roberts, op.cit.). The authors study of the extent to which such personal motivations/expectations, and planned actions to achieve these objectives revealed that they were only of an great significance for those going on to University and entering professional or higher technical/managerial positions. The relative significance of such 'transformation acts' was minimised for those entering most clerical, skilled manual and most lower skilled manual and service jobs. This study, however, refers only to Britain where, at that time, the proportions going on to complete upper second level education and going on to third level were rather low compared, for instance, to the much longer periods of extra-familial and extra communal (of origin) socialisation characteristic of the USA and of many other European countries. Here the degrees of freedom in access to other non-familial resources and other supports for non-traditional choices may be much more elaborated.

Using rational action theory, Breen and Goldthorpe (1997) and Goldthorpe (1998) suggest that individuals exercise of rational choice, utility maximising, behaviour can only occur within the constraints of the resource levels they possess, the alternative opportunities open to them at particular choice points – which again might be tightly institutionally constrained, and the costs of these different alternative courses of action. Ascribed class background factors determine the resources available. Macro level, institutional factors, for instance, may also tightly constrain or ration choices amongst alternative pathways within a highly differentiated education/training system even by age 11 or 12. The relative costs of these pathways and – and ability/resources to take them up – may again be tightly constrained by class differ-

ences amongst families. The Shavit and Blossfled (eds.,1993) studies clearly indicate substantial inter-country differences in class inequalities in educational achievement which appear to be highly correlated to these highly institutionalised national differences in ET systems.

At a macro, overall systems, level the relationship between education/training systems and labour markets is perhaps best thought of as a medium to long term secular and reciprocal one – in terms either of the supply/demand relationships, but also of the changing effect on firms behaviour and productivity of an increasingly more highly educated labour supply; as well as the consequent effects of such gradually cumulating level of human capital on firm productivity, behaviour and subsequent labour demand. The way in which employers/firms react to this increasingly more highly educated/trained labour force – and the apparent differences between different sectors and firms in this respect (Green, Ashton et al, 1997) – is a crucial aspect of economic and social research in terms of the productivity and competitiveness growth of European firms and industries.

5.2 State strategy

Relevant state strategy appears to vary widely – from countries where worries of 'oversupply' and attention to issues of more balance in supply and demand for differently educated labour – or the issue of 'adequatisme' in the French case ('adequatisme' refers to the idea that the ET system produces as many graduates as necessary for each level of qualification[12]). This indicates an underlying assumption of a relatively stable equilibrated state of supply/demand – where a system might well be producing too many more highly educated young school/college leavers in one area and too little in others. In other words, the number of graduates is given by the LM and the adequate provision is made by the ET system. This had been a strong assumption for over a decade in the '70s in may other countries. Research tends to show, however, that this view of 'adequatisme' ignores the way/extent to which enterprises train their own recruits: many of them hiring young people of good general educational levels and then giving them specific training, and continuing to re-train them over their life cycle in the firm. As a consequence, executive or responsibility positions are mostly filled through an internal process of acquiring skills and competencies and consequent promotions. Within such an 'internal labour market' perspective, 'adequatisme' appears too strong a term to describe the nature of demand and supply on the LM. Such views also ignore the extent to which firms/industries adapt to technological change and to a rapidly increasing level of education of their younger workers. Given the pace of technological and economic change, therefore, it makes more sense for states to plan (or to assume as necessary) for a current 'oversupply' of more educated school/College leavers – as judged by historical standards.

However, in at least one respect 'adequatisme' still makes a fair amount of sense: in training fields that are highly technical, where demand is relatively stable and where such training is very expensive – as in some highly professionalised areas where increased supply, for instance, merely increases overall costs without any evidence of increased competition leading to lower costs and where there is no apparent overall social benefit. In these areas it is obviously necessary to closely monitor, and control the demand/supply balances.

In other respects, however, many countries appear to have taken a strategic decision to constantly increase the supply of more highly educated youth – irrespective of current demand/supply imbalances. This most often appears to be done on the assumption that supply will, over time, change demand; and increasing education and potential productivity of new workers will, over time, significantly improve labour productivity – irrespective of immediate issues of 'overeducation'. However, there is a very clear shortage of com-

[12] Lower level leavers would become unskilled workers, intermediate vocational training leavers skilled workers, higher vocational leavers technicians and so on.

parative research work in this area – particularly in the context of the substantial institutional differences between national systems within the EU. The crucial role that firms play in converting that rapidly increasing human capital into increased productivity and increased levels of innovation and market competitiveness, as well as the way this interacts with national institutional variation needs to be studied in detail.

A number of TSER research projects deal directly with these issues, particularly

i) *Schooling, Training and Transitions (STT)*, co-ordinated by C. Sofer, Univ of Orleans (contract number ERB-SOE2-CT95-2012);

ii) the CATEWE[13] research project; as well as some aspects of the NEWSKILLS, project (contract no. ERB-SOE-CT95-2006).

A summary of the results to the intermediate stage of the 3 year STT project on comparative economic research on European schooling and transition systems focused on three issues:

a) A meta-analyses of studies on 'overeducation'. This showed that the extent of overeducation in Europe was no higher than in the United States, and that its prevalence appear to have stabilised if not declined over time: a finding which appears to contradict other research reported here. It also noted that the rate of return to higher levels of education also appeared to have increased over time (Groot et al., 1998).

b) A second hypothesis explored was that higher educational investments (mostly state) would be positively associated with higher educational achievement levels and higher returns to education. Analyses of British data did not support either hypothesis – a not surprising results to sociologists, where such resource allocations, per se, have been shown by research since the 1960s not be associated with improved educational outcomes. The nature and effectiveness of the use of such resources appears to be the crucial variables, not the amount per se (see Mortimore et al., 1998).

c) The third controversial hypothesis – to institutional economists or sociologists – is that national institutional differences in ET systems and ET and LM relationships are irrelevant to educational outcomes, once resources are held constant; and that market forces not institutions determine educational outputs.

Another set of STT papers deals with school-to-work transitions. They are considered either as a discrete and sequential process of movement from one full-time status stage to another, or as a possible jointly occurring set of changes in statuses as persons move from full time education – with part-time work – to a joint work/employment-training status (in apprenticeship for instance) to, perhaps, finally into a full time job and part time education. One of the main questions explored is whether there is any additional advantages to such 'mixed statuses', such as part-time work while in full-time education or in more formalised apprenticeship type arrangements? The results of three studies are reported for France and the Netherlands. Results appear to indicate that for France those with pre-BAC educational qualifications, apprenticeship improves employment chances and job security over those with school level vocational education only – even though there is some negative selection amongst apprentices (Bonnal et al. 1999; Sollogoub and Ullrich, 1999). Apprentices appear, however, to have a higher probability of exiting from initial unemployment.

Youth unemployment rates in Spain are the highest in Europe and twice as high as adult in Spain, as they are also in France and, up to recently, in Ireland. However on initial entry to the labour market there appear to be comparatively low returns (in terms of employment chances particularly) to higher educational qualifications in Spain (OECD, EAG, 1996 to

[13] Comparative Analyses of Transition of Education to Work in Europe, (CATEWE), co-ordinated by ESRI, Dublin and directly involving 7 EU countries.

1130

1190

1998). In the long term, however there are substantial labour market returns in (both employment and occupational status and wages) to higher levels of education in Spain – but the period of transition for third level graduates seems extraordinarily long by other European standards, with the exception of Italy: almost one year to enter the labour market to first job and almost three years to first permanent job (Minguez, 1998; Jurado-Guerrero, 1997, see also Schizzerotto and Cobalti, 1998). The role of family/kinship status systems in maintaining and supporting children in 'holding out' for a higher status and more 'level matched' jobs appears to be much stronger in both Spain and Italy than in most other European countries (Schizzerotto et al., op.cit.).

In some respects the Italian labour market entry system behaves in a similar way to the German one – although for quite different institutional, and underlying cultural reasons. Access to many non-manual occupations depends on educational qualifications and is regulated by law. Contractual arrangements and labour legislation make for a high degree of labour market regulation and make it unrewarding to hire third level graduates for temporary and poorly paid work. And both sets of influences, combined with a high degree of status maintenance pressures at a family and local informal level, make for high levels of correspondence between educational status and occupational status achieved due both to expectational and informal pressures to maintain status levels as well for formal lab our market regulation reasons. Combined with apparently stronger family/kinship support levels – in the much higher rates of staying at home amongst 20 to 30 year old Italians, for instance – these institutional and status maintenance processes lead to much longer periods of initial job search and initial unemployment rates amongst third level graduates in Italy – as well as in Spain than in other European countries (Schizzerotto and Cobalti, 1998). Over time however the occupational and earning returns to University education in both countries appear particularly high.

The main objectives of the CATEWE, TSER project (1998-2000) are to study the mediating effects of national institutional differences on school to work transitions in northern and western EU countries – France, Germany, Ireland, the Netherlands, Scotland and Sweden. Using both 'stock' (Labour Force Survey) and 'flow' (school leavers' surveys and follow up surveys) data sources the study's objectives are to analyse the mediating effects of national institutional factors on:

a) the extent and nature of 'matching' between educational/training qualifications (qualification type and level) and subsequent occupational/industrial locations;

b) the extent to which educational/employment exclusionary processes vary by institutional arrangements – particularly the way in which they are class and gender structured; and

c) the way in which social origin (class and gender) are mediated by institutional arrangements. The project is yet only at a data construction phase and initial results will not be available until mid 1999.

What appears clear from this short overview of research in this area is that it is mainly concentrated at the individual level of analyses and mostly focuses on the 'supply side': of individuals exiting educational/training systems and entering the labour market. There are very few studies of the 'demand side': the recruitment and promotion practices of firms, changes in their organisational arrangements, their utilisation of the constantly increasing level of human capital amongst young entrants to the labour market etc. Under what conditions (of industry and firm) does it lead to increasing labour productivity, to increased – or decreased – in-firm training and increased adaptability, flexibility and growing productivity of the work force?

6. Evaluation and effectiveness research

There is a long tradition of school/organisational effectiveness/evaluation research within sociology and social-psychology – at least back to the 1950s, perhaps at the earliest best typi-

fied by Coleman's (1966) famous study of the effects of schools on educational inequality in the United States. He effectively concluded that schools and the level of resources at teacher/school level had no mediating effect on educational achievement or reduction of educational inequalities – whether race, gender or social class. Later work, however, which focused specifically on school and teacher/instructional organisational processes, and the way in which and the effectiveness with which resources were used by schools, did find clear though modest school effectiveness outcomes on educational achievement as well as mediating social origin effects.

This tradition of research is well typified by the work of the European Network for Educational Research on Assessments, Effectiveness and Innovation (EU-AEI), funded by the TSER programme (contract ERB-SOE2-CT85-2001: 1996-1998). The EU-AEI network also focuses on European educational and school organisational monitoring, supporting cross-national comparative research on these issues and providing comparative data bases for their comparative analyses – both in terms of constructing 'bottom up' comparative surveys – from individual country studies, as well as encouraging 'top down' international empirical studies on in-school instructional/learning processes.

The Brandsma et al. project (TSER project, SOE2-CT95-2003, 1996-1998) is an analysis of the factors influencing the effectiveness of vocational training interventions for the long term unemployed in seven EU countries. A very sophisticated conceptual/theoretical model is used; including a lot of the necessary social background, organisational and curricular/instructional processual data, data on the interface with local employers and labour markets, and importantly the nature/quality of the relationship (guidance/counselling) of the training organisation (TO) to the individual trainee. The method is based on surveys of selected 'case study' TOs – including interviews with trainees, trainers, and employers etc. Preliminary results indicate some positive effects of very focussed guidance/counselling – toward developing competency in problem solving, handling interpersonal conflicts and work disciplines, and job search training situated near the point of market entry.

There is a large body of research work in both economics and sociology on the effectiveness of training and on the appropriate and effective methodology in cases where the trainees may be a highly selective group (Ryan, 1997). The unavailability of experimental approaches (particularly random assignment to the 'treated' and untreated group) toward evaluation in Europe, as compared to American studies, means that researchers have to be extremely careful and cautious in assessing the effectiveness of training programmes (Ryan op cit.; O'Connell and McGinnity, 1997). However, the research on this issue is much less sophisticated, both conceptually and methodologically than the research on school effectiveness – with equal pupil/school selectivity problems. More of the work also has been put into developing sophisticated statistical models – to try and take care of both selectivity biases and unobserved variables for instance – and much less attention to the effects of curricula, instructional arrangements and pedagogy, learning reward systems etc. as well as the quality of provision/instruction (see O'Connell and McGinnitty for review).

Related to – and indeed included within – this type of research is that focusing both on the nature, effects and effectiveness of the different ways in which pupil achievement within courses of study are assessed and certified; as well as the nature, manner and effectiveness with which schools and Colleges themselves are assessed. EVALUE (ERB-SOE2-CT 95-2004; 95-98) is a French led TSER study of the nature/patterns, effectiveness, and effects of new ways of evaluating Universities in 8 European countries and in five aspects of their operation – evaluation of their instructional/learning systems, of research output, of teachers/instructors, of university organisation itself, and of college/university and employer/industry relationships.

Universities have radically changed their functions as they shifted from elite to mass educational providers. They have become much larger and much more complex in their

1192

objectives and their organisation. Such increasing complexity of function and structure has been allied to substantial changes in their relationships to the state – as the main funder/developer, to the older professional, academic and scientific communities, but mainly to employer and market forces. As the proportion of their graduates having privileged access to the professions and public employment declined, for example, and as their potential significance as centres of new knowledge/skills generation grew as well as potential development centres for their localities/regions – at least in public debate – so difficulties in managing these often contradictory roles also grew. The necessity to maintain academic autonomy while at the same time having to adjust to substantially greater state and market pressures created great difficulties for universities. The way in which this pressure is managed, while maintaining standards, is one of the main aims of the EVALUE research.

The university – employer/industry relationship is one of the main topics of the research (pp. 85-98 of final report, 1998), and is more developed in two 'ideal types' of universities identified – in universities (or other equivalent technological colleges) specialising in applied science, business studies and educational studies and ones established with a strong economic/employment development logic. The employment/occupational integration of graduates of such colleges – and the role and responsibility of university authorities and lecturers to maximums such employment possibilities – appears to be highly variable; even to the extent to which the latter take such responsibilities seriously. The more traditional 'elite' universities, of a more academic character, are much less concerned with such employment outcomes.

The university/regional relationship is also studied in the EVALUE project. The project studies the complex relationships between third level colleges, established specifically for regional development purposes, and local/regional authorities and employers – in terms both of the expectations and support of the latter for such colleges, as well as the reciprocal expectations and behaviour of college authorities and lecturers etc. – and the strength and effectiveness of the partnership between the colleges and local/regional communities. The expected potential of such new colleges for regional development needs to be studied in detail – in terms of increasing local human capital resources, of decreased outmigration, the potential contribution of such increasing human capital to regional productivity growth – as well of course as the direct local returns to the increased employment created by the presence of the college itself. Some of the British and Irish studies in this area, however, are at best neutral in their conclusions about such local/regional returns to such educational investments.

The DELILAH TSER project (ERB-SOE2-CT95-2002) on *Designing and Evaluation of Learning Innovations* had three main objectives: develop a new conceptual/methodological approach to innovations in ET – particularly the idea of 'learning patrimonies'; carry out case studies in four ET sectors in Germany and Britain; and draw out the implications and policy conclusions.

The qualitative research indicated both the difficulties and different dynamics of change and innovation in the different institutional systems. First is the relationship of the state to schools – in, for instance, the increase in school autonomy that has occurred in some systems (such as the British), making them more responsive to both state (in effectiveness audits) and market pressures. At the same time increasing managerial control within the school reduces the autonomy of the professional role of teachers, creating countervailing pressures.

The study raises some important questions about the main purposes of education, particularly the potential negative effects of increasing instrumentalism and financial pressures on schools in a situation where the significance of familial socialisation is declining; and the ideational, identificational, normative and general socio-cultural roles of schools have probably become more significant. As other institutions like the family and community systems realign and decline in relative significance the effect of increased

instrumentalism on overall socialisation/ school effectiveness needs to be studied in detail.

Although the evidence appears somewhat thin and not sensitive to varying institutional contexts this research does have some important messages, if not clear conclusions:

- The demand for increased educational levels has increased faster than the school system can effectively adapt. As a result, as those who previously could get unskilled jobs with no/poor qualifications declined substantially, schools did not adapt fast enough or effectively enough to cope with this problem. Most interventions with this educationally deprived group have occurred at a post-school level. The serious dangers in focusing interventions on such post-school interventions, usually in non-formal and temporarily organised arrangements, mostly dependent on year to year precarious funding, has become obvious in most EU countries where this occurred. More fundamental in-school innovations appear necessary – at pre-school, early in-school, and early second level school levels in order to reduce the incidence of in-school failure, which although relatively small in percentage terms (less than 10 percent in most systems), appears to have equally serious labour market integration effects on the lowest qualified in most systems. (Smyth et al.,1998; Martin and Raffe, 1998; Becker and Rutjes, 1998; Recotillet and Werquin 1998, final Leonardo, VTLMT, report, 1998).

- Overemphasis on instrumentalism, and market readiness, not paying sufficient attention to general education or the particular personal/social development needs of educationally and socially damaged adolescents.

- The new political economy of schooling may very well lead to increasing class inequalities as funding arrangements change in some systems to be more school competitive and market sensitive (as in the UK), and such modern technological aids as IT and self learning etc. become increasingly important in schools without compensating resource allocation – with the middle class more likely to gain advantages.

7. Class and gender inequalities and social exclusion

The major secular shifts in economic structure in western industrialised countries over the past 20 to 30 years have led to substantial changes in occupational/class structures – particularly a decline in lower working class (particularly unskilled manual) positions, and substantial growth in middle and upper/middle class positions. This change in the nature of flow of children out of families into schools, combined with equally rapid changes in the structure and costs of schooling – with free education gradually being extended in most cases up to the end of upper second level, with substantial growth also in the importance of education in occupational allocation and promotion was all expected to have significantly reduced class origin inequalities and greater equality of opportunity in levels of education achieved (Boudon, 1974). Yet most of the international research on this issue indicates that despite substantial growth in average levels of education, and of greater relative growth in participation by children from working class origins at the lower levels of achievement in most countries, there is little evidence of overall decline in class inequalities in educational achievement levels – particularly at upper second level and at third level (Blossfeld and Shavit, 1993). Raftery and Hout (1993) proposed a radical hypothesis to explain this phenomenon – that inequality in educational opportunity is *maximally maintained* – with effects of social origin at all levels of education maintained to the point where the participation of advantaged groups is maximised and further expansion in participation can only come from those with lower working class origins. At this point the more advantaged groups push for further expansion of ever higher levels of education in order to maintain their advantage. So many international studies show positive effects of educational expansion at lower levels of education on equality of opportunity, but little change in class inequality at higher levels.

Little consistent change over time in class inequalities in educational achievement in most countries – with some notable exceptions such as Sweden and the Netherlands. In both cases, this decline appeared to be due more to an equalisation of life conditions between the different social classes than to any educational policy changes (Blossfeld and Shavit, 1993; Erikson and Johnson, 1996). In most countries, therefore, where social selection was most severe at the beginning of the educational career, the point of selection has been pushed further up the educational ladder.

Gender differences in educational achievement on the other hand show a much greater equalisation over time – with in some cases, the gender gap being reversed, with girls doing better particularly those from working class origins. Gender differences also appear to be greater in more differentiated systems at lower or upper secondary level – as in Germany and UK, whereas in France, Sweden, Portugal and Ireland it is the other way around (Freysson, 1996); mainly it appears because of the dominance of general educational models in the latter countries.

One of the main hypotheses of the CATEWE project (TSER, CT-97-2019, 1997-2000) relates not so much to overall class inequality effects on educational achievement, but on the effects of national institutional ET differences on educational/employment exclusion processes. The hypothesis is that such educational and labour market exclusionary processes are both more severe and more class origin biased in countries with less selective and less differentiated systems – Ireland and, to a lesser extent, Britain and France; or that it will be less severe in selective/differentiated systems as in the Netherlands and Germany, despite their greater class differentiating effects in overall educational achievement. In the latter cases early differentiation into selective educational/vocational tracks are closely linked to accessing segmented labour market outlets, segments/occupations with significantly lower levels of competition from the more highly educated. This is suggested to be particularly true for non-skilled manual/service occupational positions. The expected effects of this would be to leave more uncontested 'room' in the labour market for poorly educated youth, with the consequent effect of higher employment expectations motivating in-school learning. Shavit et al. (1993), for instance, find positive effects of vocational tracks on access to skilled occupational outlets and avoidance of low skilled and insecure employment.

Initial results, however, from a related Leonardo-da-Vinci project (VTLMT, DGXXII, 1996-98; Final Report, Dec. 1998; Martin and Raffe, 1998; Smyth et al. 1998; Becker and Rutjes 1998; Recotillet and Werquin, 1998) indicate ambiguous support only for the initial hypothesis on exclusionary effects – with the most poorly qualified in the Netherlands suffering almost equally high levels of employment exclusion as in Scotland, France and Ireland. However in other respects the results support the conclusions on the positive effects of vocational/technical qualifications on employment chances, but also indicated the almost equal importance of 'passing grades' in lower second level examinations in accessing the labour market. Access to apprenticeships, however, tend to be negatively selective in the Netherlands and France while it is positive in Ireland and Scotland (Smyth et al., 1998).

There are also quite substantial country differences in occupational allocation amongst these 4 countries – with a much higher proportion of lower second level leavers in non-manual jobs in Scotland (who have 'passed' their lower level examinations – at 16) than in the other countries. These latter differences appear not only to be due to national differences in the availability of such jobs to school leavers in general – a function of both the economic cycle and the extent to which public expenditure funds such occupations, but also the relative proportion of all school/College leavers entering the labour market who only have lower second level qualifications. This tends to be much higher in Scotland (Smyth and Surridge, 1995 and 1997). But in the latter case a much higher proportion of such early leavers are in alternative learning routes – apprenticeships, Youth Training and other full and part-time educational courses outside the conventional school system. The Scottish and British system then maximises out-of-school education and training for the

1195

post compulsory years whereas the French, Dutch and Irish systems maximise full-time educational attendance up to the end of upper second level education (Martin and Raffe, 1998). Whether the increased level of education and postponement of labour market entry – as in the latter countries – has the moderating effects on class and gender inequalities in educational achievement and labour market success, as has been proposed and found in other research (Blossfeld and Shavit,1993; Shavit and Müller,1998) has to await further research.

Such lower level leaving is highly gendered and class differentiated in all countries: predominantly male, and predominantly from lower working class or unemployed family backgrounds, with parents having lower levels of education. Even given the large institutional differences between, for instance, the highly vocationally differentiated Dutch system and the more general educationally based and undifferentiated Irish one, it appears that the extent and nature of social class selectivity of successful educational progression in both countries appears remarkably similar; though paradoxically gender differentiation (positively) and class selectivity (negatively) factors appear more pronounced in Ireland. This would accord with our hypothesis – though the statistical significance of these inter-country differences has not yet been tested (Martin and Raffe, 1998).

Lindblad et al. TSER reseach proposal (SOE2-CT97-2028,1997/8 – 2000) main proposition is that increased economic/political pressure on schools/universities, and increased 'marketisation' of resource allocation, evaluation etc. significantly change the organisational characteristics of the school/College away from its public service functions/practices as a 'rule governed' to a market led system. As a result this makes it more difficult for the school/college to meet its new targets/objectives on reducing social exclusion. This will be investigated in 8 countries. Their method is to review the research literature, carry out comparative analyses through individual country 'case studies' of governance structures of schools/colleges – including 'discourse analyses' of existing policy etc. papers. Evaluations of national experiences with new governance structures, and research on national data/studies of social exclusion and class inequalities is also to be carried out. Implications of governance changes for social class inequalities and evaluations of new programmes of intervention targeted to improve the situation are to be carried out. This study in nine or ten countries appears to be inductively based, generalising from comparative national case studies of what interventions work or do not work in different contexts.

The ways in which, and the organisational effectiveness with which, schools/colleges are organised and managed do have significant impacts on student outcomes. (Mortimore et al.,1998; Smyth, 1999). It may well be that modern state led concerns about school management effectiveness and changes in their operating and governing arrangements toward 'market led' rather than 'rule governed' behaviour would have significant negative impacts as hypothesised here. Certainly the original British 'market led' arrangements for publishing crude examination results by individual school and the use of state vouchers in purchasing school places – expected to increase inter-school competition and overall school effectiveness by improving families/pupils choices between 'effective' and 'ineffective' schools – would neither have positive system effectiveness outcomes and would certainly increase class inequalities.

Nevertheless as third level educational participation becomes more 'universal' substantial changes are required in the way the originally elite and autonomous universities are run – and in many European countries the rallying cry of negative 'marketisation' appears far too self interested; with new instruments to ensure effective responsiveness to economic and societal needs badly required.

8. Conclusions and issues to address in the next TSER programme

There are four main themes in the "Improving Human Potential" part of the Fifth Framework Programme (1999-2002):

(i) Societal Trends and Structural Changes;

(ii) Technology, Society and Employment;

(iii) Governance and Citizenship;

(iv) New Development Models Fostering Growth and Employment.[14]

Three of these are clearly related to our theme – (i), (ii) and (iv).

The issues of school to work transitions, labour market integration, human capital 'creation' in education and training systems and its effective integration into the economy, variations across EU regions in their ET and LM institutional arrangements and their differential effects on labour market integration etc. fit clearly within these themes but need to be spelled out and applied to the new V[th] Framework Programme. There appear to be at least five broad areas where high quality comparative economic and social research is urgently needed and would fit within the broad remit of the V[th] FP:

a) Since the relationships between rapid technological change, education/training provision changes and economic/occupational changes are very complex – and not readily 'read off' from technological change – there is an urgent need for high quality comparative European research on these issues. There are wide national, industrial and between-firm differences in how, and how well, workers with higher levels of education/training and new technology are inserted or used within firms/industries. The way in which both technical and educational changes are related to firm/industry strategies of adaptation to rapid market changes should be a priority in future research. Current research on these issue has to depend too often on inferring such firm/industrial behaviour and strategies from data on individual workers' labour market histories.

b) The issue of new development models and economic/employment growth – a main theme of the new research Programme – needs to be explored in depth on a comparative national basis across the EU. The wide national institutional differences in ET systems, their varying labour market integration processes and the extent/nature of their open-ness to life long learning processes, suggest substantial national differences in economic and employment growth models. There are large national differences in, for instance, the extent and nature of provision for life long learning systems, and in the way they are integrated with employment/work systems. These national differences are likely to be strongly related to both the participation rate and the effects of life long learning opportunities: with some national systems being highly 'user friendly' over the life course, highly integrated with both work life and careers. Other ET systems appear inflexible and unrelated to life long individual career and firm/industry re-skillling and up-skilling needs. The issue of 'life long learning', of its linkages to in-firm training and to the institutional flexibility of educational providers and qualification frameworks – to effectively optimise such 're-learning' occurring over the life cycle, though such a dominating theme in EU policy documents, has received little comparative European attention; though significant cross-national differences do exist in the extent to which it occurs.

c) Equally comparative research at a firm and industrial level on the human resource management of increasing levels of education/training amongst young work forces is urgently needed. Given rapid market and technical change the extent and nature of adaptations by firms and industries needs as much study as has been given to the behaviour of individuals in their transitions from school to work.

d) Equality of opportunity in education, occupational achievement and earnings – by gender, social class of origin, ethnic group etc. – as well as the equally important issue of educational and labour market exclusion appears to be quite sensitive to both

[14] EU Council Decision adopting a specific programme of research, technological development and demonstration on 'Improving the human research potential and socio-economic knowledge base. OJ. C506/99, 13.01.1999.

1197

economic/technological change as well as the way in which the national ET systems for initial and continuing re-education/ training effectively provide opportunities. Again single national models appear unlikely to be generalisable to the whole Community – given the deeply rooted institutional differences involved. Besides the obvious injustice of high levels of inequality and its obvious negative social effects, the systemic and often deeply institutionalised nature of the under-utilisation of human capital involved – particularly amongst the most educationally/economically excluded – appears glaringly inefficient in both economic and social terms. The need for good quality comparative research on this issue appears obvious.

e) Comparative European Data: Besides the Eurostat data bases (particularly the Labour Force Surveys and Community Household Panel surveys) there are very limited comparative European data bases available on some of the most important education, training and labour market integration policy research issues that affect the European Community. Compared to the United States, for instance, or to a majority of EU states, there are no comparative surveys or data bases on longitudinal (flow statistics) on educational/training processes and outcomes and education to work transitions, no comparative data on life long learning processes – or adaptation of firms/industries to rapid technological and human capital changes etc. Improvements in Eurostat surveys – including the new, year 2000 transition module on transitions – will be some help in correcting for this deficit, but in a very limited way. In addition there appear to be far more serious constraints in making such (suitably anonymised) Eurostat data sets available to the research community than is true of most individual countries within the EU. These issues will be discussed in more detail below.

8.1 Educational level and labour market success

Although variable cross-nationally there is generally a close relationship between level of education, employment chances and evel of occupation (status or quality) achieved; i.e. a moderate to high level of 'level congruence'. However there is a substantial (though varying) degree of overlap within educational levels of occupational statuses achieved in all systems; i.e. of 'overqualification' of workers within occupations or 'under-utilisation' of education/skills by employers, varying considerably cross-nationally. (see Shavit and Müller, 1998; Borghans, Hughes and Smits,1998). The degree of occupational 'overlap' between different educational levels, or the degree of labour market competition between them, obviously reflects national institutional differences, cyclical employment rates as well as life cycle factors – being greater in periods of high unemployment and at initial stages in the labour market. The varying nature of such 'overlaps' and their effects on labour market flexibility, labour productivity and turnover, employment exclusionary processes etc. all need to be studied in more detail.

Further cross-national study is also needed on the extent to which the content/level/difficulty of 'within-occupational/industry' categories remains the same over time or, as Green et al. (1997) study indicates for Britain, or the extent to which technical change/upgrading also occurs within occupations; or the extent to which occupational boundaries remain impermeable. In addition the extent and nature of productivity growth and organisational and technological 'response effectiveness' of firms/industries to the constantly improving quality of labour market entrants, needs detailed study. The 'under-utilisation' of skills by firms/industries needs as much attention as the 'overqualification' of young workers.

8.2 The content of education/training and occupational/job congruity

The issue of 'content congruence' (Almendinger, 1989 and 1997) has not received much comparative research in the EU. This may be a more relevant question in some countries such as Germany and the Netherlands or other countries with extensive occupational labour markets. To measure the nature and extent of the linkage between the content of what young people learn in initial education/

1193

training and what knowledge/skills they actually use at work has usually been studied by linking field of study to the nature of the work/occupation taken up – either where institutionalised linkages exist as in apprenticeships, professional/technical occupations or otherwise where the educational/occupational connection can easily be estimated. More subjective approaches have also been used – by asking individuals in specific jobs/occupations to what extent they use their ET gained knowledge/skills in their work etc. However, in neither case is the research methodology without fault – with little cross-national comparability. In addition it is clear that a lot of occupationally relevant learning is implicit and unmeasured by educational/training qualifications – e.g. the significant advantages of apprentices in some cases in the labour market even in areas in which they have not been trained. The nature and significance of such non-formal and currently non-certified learning at home, in school and at work is recognised in some current cross national projects both in terms of content and learning style and motivation (Reef, Coord. of TSER project on cross-curricular competencies CT98-2042); with some evidence that some aspects of learning style – particularly the conformist and reproduction oriented style – may be functional for educational achievement in some settings but dysfunctional for subsequent labour market success. (Semeijn, van der Velden et al., 1997; Semeijn and van der Velden, 1998).

To over-value a narrow concept of 'content congruence', therefore, would be unwise: while initially functional for the overall system it may well have serious negative consequences for individuals' career mobility and, if education and training is too narrow, also limit infirm re-training and firm adaptability.

Additionally the discrepancy between the education/training provision of a national system and the needs of the productive system can be estimated (Kirsch and Werquin, 1995): the French idea of 'adequatisme'. Because many French firms recruit young people at a given level and then train them within the firm – paying attention to the general educational level on appointment – the older 'manpower planning' idea of 'adequatisme' does not work. The most recent and relevant issue about 'adequatisme' is about what other, often implicit and informal, things young people learn while in school and what they use at work. The example of the German car producer which recruited most of the apprentice/trainee bakers in the region indicates that while the training system was not efficient in terms of field of vocational preparation it was obviously effective in other respects that were very relevant to car makers (for example work disciplines and shift/night working etc.). The informal/implicit learning of work relevant skills that are transferable to other occupational/industrial settings needs much more research.

Another example comes from Kirsch and Werquin (1995). They have shown than in France, most young people exiting the training system at the BEP level – first vocational level – did not use their specific skills and competencies in the first jobs they got, when/if they got one. Even taking subsequent occupational mobility into consideration they are not generally mobile into jobs directly connected with their first vocational preparation subjects. There is need for further comparative research of the nature of both the explicit (certified) and implicit training/education provision/socialisation provided by the ET system, and the interpretation/use made of it by the employer/productive system.

Informal transferable skills – or personal and interpersonal skills which are the result of non-formal learning experiences both in the formal schooling setting as well as in related interpersonal socialisation, which are not measured and certified by schools, and which may therefore be less institution and country specific than formal schooling outcomes, is now the subject of a lot of research (e.g. OECDs, new PISA programme; COST Action AII etc.; Reef et al., TSER project, 1998).

8.3 Youth schemes, evaluation and selectivity biases

One of the most relevant aspects of youth schemes is their function in handling the increasing duration of job search and higher

1199

rates of unemployment between the end of initial education/training and the first permanent job. As young people's status in the labour market dis-improved most States strongly intervened with various types of training/employment schemes. Many evaluation studies of the effectiveness of these schemes have taken place at the national and EU level (see Brandsma et al., TSER project CT95-2003,1995-1998). The issue of selection bias in that evaluation is critical. Most such youth schemes are designed to ease transition from school to work for those with poorest qualifications and those least likely to be perceived as productive within an enterprise. Of course recruitment and progression within such schemes may be selective on both measured an unmeasured (usually social-psychological) variables. And since firm recruitment from such schemes is highly selective even amongst those employers think are the 'better' amongst applicants, selectivity bias may be quite high. In theory training schemes are designed to help young people who need further education/training. In practice, even if there is no selection by such schemes, employers selection may only take those who otherwise would have got the job anyway – the scheme has high 'deadweight'. Ways both to measure and control for these selectivity biases have been developed, but their applicability and validity need much more development and evaluation in comparative cross-national work.

There is therefore an urgent need for effective comparative evaluation of the effectiveness of these schemes in different EU countries (Grubb and Ryan, 1997). Heckman and Smith's (1995) dictum that 'The fundamental evaluation problem arises from the the impossibility of observing what would happen to a given person in both the state where s/he receives a treatment and the state where s/he does not. If a person could be observed in both states, the impact of the treatment could be calculated by comparing his or her outcomes in the two states, and the evaluation problem could be solved'. Given that participants are not observed in both states, a large literature has been developed to help control of the consequent selectivity biases. The use of experimental methods (in the random assignment of participants to treatment and control groups, for instance) to control for such biases has been very limited in Europe.

However before proceeding to such experimental methods it might be more advantageous to increase the conceptual, measurement and analytical sophistication of the evaluation research in this area to that characteristic of the older tradition of related research in 'school effectiveness' – paying much more attention to the nature of the curriculum and pedagogy, course organisational characteristics – including sensitivity to the often quite different social psychological characteristics and needs of the lesser qualified youth that take up such training courses. There is a need to get beyond the question 'do these programmes work' to the question of what kinds of programmes work with what kind of 'clients' – curricula, pedagogy – including the quality and relevance of both, the nature and quality of linkages to firms/employers and real work situations (see O'Connell and McGinnity, 1997; Ryan, 1998; Brandsma, Coord. TSER project CT95-2004).

Cost-benefit analysis has become the dominant mode of evaluation in the United States. This method has some limitations, however: arbitrary shadow pricing for valuing many costs and benefits, inadequate duration of measurement of outcomes, relative neglect of the variance of outcomes and the underlying reasons for these and so on. It tends to neglect, for instance many of the social, social psychological and even educational outcomes of interventions in focussing only on labour market outcomes. And it overemphasises the efficiency criterion, and often under-emphasises the equity/egalitarian criterion – a much greater priority in most European studies.

Besides the effectiveness and costs/benefits of such schemes little comparative work has been done on the institutional, organisational and curricular-pedagogical characteristics (including the content effectiveness) of these schemes (but see Brandsma et al., TSER, SOE2-CT952003). The relationship of such post-school schemes to initial education, the extent to which they are designed to correct for initial educational failure – and whether

1200

the original system remains unchanged, the extent to which the organisations delivering such schemes are linked to the ET system – providing pathways back to it or in co-operation with it, and the extent to which linked in with employer and labour market systems. Since policy on state/EU interventions on transitions from school to working life are political imperatives in most countries, but such interventions cannot rely on solid, comprehensive and efficient theoretical or conceptual models – or a solid research base, the filling of this theoretical and research lacuna should be a priority issue for future research.

Besides the transition between education/training and the labour market, as well as transitions from and into unemployment, there are many other important transition issues that need investigation: returns (occupational/earnings) to different types and levels of education/training, migration and job search, movement out of the labour market and its relationship to new household formation – particularly for poorly educated young women, housing changes, changes in living together and marriage arrangements and so on. Studies of labour force withdrawal of young women, for instance, appears to take place in some countries only after a significant period of initial employment difficulty (Hannan and O Riain, 1993), but in other countries entry to the labour force itself upon completing education – particularly amongst females with low levels of education – appears to be much more problematic (Canada Vicinay et al., STT Working Paper 07-98, 1998).

8.4 Earnings

Most of the research being done in the field of school-to-work transitions has been focussed on the probability of getting a job. Given the high unemployment rate across Europe this is not surprising. Job search is important not only in terms of its length and difficulty but also in terms of the quality of the match between school leaver and job – whether in terms of 'content and level congruence', the extent to which it is a marginal job, its occupational status and subsequent career mobility chances, wages and wage growth etc. (Atkinson and Micklewright, 1991).

Wages also need to be studied in greater detail for other important reasons: The issue of minimum wages and of minimum wage legislation, unemployment benefit, wages on state programmes etc. The issue of the relative effectiveness of different active labour market programmes and the role played in labour market demand for young and older workers in a situation of overall low demand needs also be studied in more detail.

Finally wages have to do with the cost of labour which is often decried as too expensive as far as the low qualified labour force is concerned. The issue to address here is clearly whether Europe should lower the wage of poorly qualified young people or increase their skills through training, and what effect either policy would have on overall economic effectiveness. In addition the extent to which similar policies have similar effects in different national/institutional contexts also needs to be studied in detail.

8.5 Data issues

One of the main issues that arise in testing cross-national hypotheses is research/data quality. Usually the phenomena being dealt with are very complex and linked in complex ways to several origin, process and outcome variables: initial 'ability' and family background variables, ethnicity and gender; differences in the nature of educational/training programmes and processes and outcomes; differences in labour market history as well as opportunity characteristics; and personal outcome differences in terms of cognitive, affective and behavioural characteristics. Given this complexity and the different national systems within the EU it is difficult to answer many important research and policy questions with existing data sets. The following data questions appear very important for future research work:

- While obviously rational to build on existing data sources at an EU level (such as the Labour Force Surveys –LFS- and the European Community Household Panel Survey), as well as on relatively comparable national data sources such as the follow-up school/College leavers' surveys –

1201

carried out in six countries, the weakness of EU data sources on educational/labour-market relationships compared to that of our main competitors such as the USA needs to be corrected. Even where cross-national databases exist crucial variables are often 'missing' and comparative measurement difficulties arise where systems vary widely.

- Most of the current TSER quantitative research, for instance, is based on existing national and international data bases. There are some exceptions, such as the study of graduate employment in Europe (CT2023, 1997/8-2000). All of the evidence suggests the necessity to build comparative European data bases on the central policy/research issues involved; rather like those already existing in the Europanel and LFS household income/expenditure data bases.

- The significant improvements planned in the coverage and comparability of the Eurostat LFS data base, and particularly the additional information on transitions planned to be available from the 2000 LFS, potentially means that a lot of new comparative research work can be carried out; provided of course that 'public use' files, at the individual level, are made available to the research community as already happens in most of the EU countries. The development of more liberal Eurostat access regulations, such as those governing researchers access to such data sets at national level in most EU countries, is an important research and policy analysis priority.

- Besides the 'stock data' available from the LFS, good comparative 'flow data' on school/college to work transitions over the first 1 to 5 years or so in the labour market are urgently needed. These could be based initially on the current school leavers' surveys carried out in six EU countries (CATEWE, TSER project, CT97-2019), as well as the TSER funded third level leavers, follow-up surveys in 12 countries (Teichler et al, TSER contract CT-2023). However in the former case these studies cover a small set of countries and vary significantly from each other in sample definitions and variable coverage etc., though sufficient similarity exists to yield rich comparative sources of information on transitions. (Final Leonardo VTLMT report, Dec. 1998 available as an ESRI Working Paper, Dublin). One data strategy would be to improve the comparability of these surveys and increase their country coverage. The alternative, however, of 'top down' surveys either based on the planned, year 2000, Eurostat LFS module on transitions – though the planned set of variables is very restricted – or on new occasional cross-national surveys (such as the 'Teichler survey') should be actively explored.

- EU strategies on European data bases should, therefore, be as much concerned with 'making data European' as with creating new European data banks: with maximising the cross-national comparability of current national and international surveys on specific issues (such as the OECD and IEA co-ordinated studies), as well as creating new policy/research data sources for priority areas where this is necessary. Such a strategy would require a comprehensive assay of current and projected surveys, as well as determining areas where important data is missing or non-comparable.

The work of the TSER funded CATEWE project and the EU-AEI network shows both the importance and the possibilities for building on existing national and international surveys. The continuing work of the latter indicates, for instance, the necessity of continuing assessment of changing national objectives, strategies, contents and outcomes of educational interventions. Current methods for doing appear highly inadequate, with a need for European wide methods – for educational indicators, methods for measuring 'added value' and development of reliable and cross-nationally valid and culture fair tests etc. on an equivalent basis to that provided, for instance, by the United states or indeed other developed countries within the OECD system of monitoring educational and labour market changes; comparable for example, to

1252

the work of Networks A to C within the OECD educational directorate, for instance.[15]

The two main players in the area of international educational comparative educational assessment/testing research for instance are the OECD and the IEA (International Association for the Evaluation of Educational Achievement). Besides the issue of ensuring that cross-cultural reliability and validity of the instruments as well as their national institutional sensitivity (by ensuring that EU countries are adequately represented on the planning committees etc.), these organisations also normally allow participants to add so- called national options to their ongoing international survey instruments. The European 'added value' of such surveys would be greatly enhanced if the EU Commission would co-ordinate national efforts, ensuring that such instruments are adequately generalisable across EU systems, and that they provide data that is attuned to the main policy and research questions in the area (see Reef et al, TSER project,1998).

In addition many national surveys are carried out on the same set of themes, and with much the same set of objectives by individual countries. The EU wide utility of these national surveys on educational achievement and labour market entry could be significantly improved if an 'added value' EU comparability dimensions were developed for the important variables. The costs involved would be marginal (to total costs) but the 'added value' return would more than compensate.

The national longitudinal studies (in at least 6 EU countries) which follow young people from an early age (e.g. 15) in the ET system to a point in their labour market career where their status has stabilised (usually 3-5 years after entering the labour market) provide invaluable information on transitions which is not available from other sources. Usually these surveys include not only labour market history information but also the crucial social background characteristics and educational formation data on individuals. Since educational and labour market history itineraries are increasingly prolonged and individualised, cross-sectional, snapshot surveys give a highly inadequate picture of transition dynamics – or transition difficulties or success. Such longitudinal surveys should ideally follow young people for five to six years after leaving school, a minimum period to estimate 'final' transition outcomes (Werquin, 1997).

A good final benchmark to use is the age at which the unemployment rate of the cohort equals the adult one. Although the cost of such surveys is high and they cover a longer period of observation before results become available many EU countries already carry them out for their own policy purposes (France, the Netherlands, the UK, Ireland, Sweden and now Flanders), while partial or regional surveys are carried out in many other countries. Although there are some serious 'missing data' problems for some countries and other methodological difficulties the results of analyses of these comparative sets appear important and quite robust (Leonardo final VTLMT report 1998; and CATEWE, TSER project 1997-2000). An EU policy of 'adding value' to these national surveys (by increasing their variable coverage and data/sampling definitions for instance), and encouraging their expansion to other countries, would be a very cost effective method of increasing the availability of valuable comparative European data.

Besides such 'objective' and standardised surveys further comparative studies of individual strategies for, and experiences of, transition need to be carried out, such as in the Anglo-German studies (Bynner et al.,

[15] The work of the EU-AEI network for instance, shows the need for continuous assessment of the status and trends of educational objectives, contents and achieved competencies at primary and secondary educational levels. The conclusions of this, partly TSER funded, network are the existing tools for this are inadequate and that it is necessary to:
i) set up a European instrument bank for educational indicators;
ii) develop adequate methods for measuring added value in educational achievement;
iii) develop reliable and valid methods and instruments for culture fair testing on a comparative European basis for both student achievement as well as, for instance, for adult literacy testing.

1203

1991). Comparative research of other important policy issues also appear important. The issue of guidance and counselling, for instance, urgently needs attention – particularly as it relates to the transition of the less academically able students within school; and the general finding that in most countries such in-school services appear comparatively irrelevant to the great majority of school leavers in transition (Hannan et al., 1983; Becker and Rutjes, 1998). This contrasts sharply with the situation in many other countries – particularly Japan – as well as perhaps in vocational training and other educational programmes which have a large element of work placement/experience – which require close contact between schools and employers.

The Fifth Framework Programme – particularly the Key Action – Improving the Socio-Economic Knowledge Base – could thus be more focussed on some central economic and social policy issues: education/training and labour market relationships, the issue of technical/educational and firm industry change, the issue of state training/employment initiatives in the context of high youth unemployment, the issue of educational and life chance inequalities and educational/social exclusion, and the micro-macro issues of the relationships between educational/training change and rapid technical and market change at both firm/industrial and individual levels. Cross-national comparative research on these and other related issues should be a high priority for the new Vth FP.

Bibliography

Affichard J., 1983. Nomenclatures de formation et pratiques de classement. *Formation – Emploi*, numéro 4, octobre-décembre, pp. 47-61.

Allmendinger J., 1989. Educational Systems and Labour Market Outcomes. *European Sociological Review*, **5** (3), pp. 231-250.

Arum R., Shavit Y., 1995. Secondary Vocational Education and the Transition from School to Work. *Sociology of Education*, **68** (2), pp. 187-204.

Ashton D., Green F., 1996. *Education, Training and the Global Economy*, Edward Elgar, Cheltenham.

Ashton D., Green F., 1997. Human Capital and Economic Growth. *Policy Options*, **18** (6), pp. 14-16, IRPP, Quebec.

Atkinson A.B., Micklewright J., 1991. Unemployment Compensation and Labour Market Transitions: A Critical Review. *Journal of Economic Literature*, number 4, p. 1679-1727.

Becker G.S, 1973. *Human Capital – A Theoretical and Empirical Analysis with Special Reference to Education*, third edition, NBER, The University of Chicago Press.

Becker K., Rutjes H., 1998. Early Labour Market Outcomes of Lower Levels Leavers in Ireland, Scotland, the Netherlands and France. *In*: Raffe D., van der Velden R., Werquin P., eds. *Proceedings of the 1998 European TIY Workshop*, CES, Edinburgh.

Béduwé C., Espinasse J.-M., 1997. Skills and Job Markets in Europe. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, France. *In*: Werquin P, Breen R., Planas J., eds. *Youth Transitions in Europe*. CEREQ, Document Séminaires, number 120, Marseilles, March.

Béduwé C., Espinasse J., Becker K., Rutjes H., 1998. Certificates, Skills and Job Markets in Europe. *In*: Werquin P., Breen R., Planas J., eds. *Youth Transitions in Europe: Theories and Evidence*, Céreq, Document Séminaires, number 120, March.

Birnie J., Hitchens D., 1994. *Comparative Manufacturing Productivity in the Republic of Ireland*. Regional Studies. **28** (7), 747-753.

Blossfeld H.P., Shavit Y., 1993. Changes in Educational Opportunities in the Federal Republic of Germany. A Longitudinal Study of Cohorts born between 1916 and 1965. *In*: Shavit Y., Blossfeld H.P., eds. *Persisting Inequality: Changing Educational Stratification in Thirteen Countries*, Westview Press, Boulder, Colorado, pp. 51-74.

Blossfeld H.P., 1993. Persisting Barriers: Changes in Educational Opportunities in Thirteen Countries. *In*: Shavit Y., Blossfeld H.P., eds. *Persisting Inequality: Changing Educational Stratification in Thirteen Countries*, Westview Press, Boulder, Colorado.

Blossfeld H.P., 1994. Different Systems of Vocational Training and Transition from School to Career. The German Dual System in Cross-National Comparison. *Determinants of Transition in Youth*, Berlin: Cedefop, 26-36.

Bonnal A., Mendes S., Sofer C., 1999. *Access to the first job: a comparison between apprenticeship and vocational school in France*. STT working paper for the TSER Programme, WP 20-99.

Borghans L., Hughes G., Smits W., 1998. *The Occupational Structure of Further and Higher Education in Ireland and the Netherlands*. Cedefop. Thessaloniki, Greece.

Boudon R., 1974. *Education, Opportunity and Social Inequality*, Wiley and Sons: New York.

Breen R., Goldthorpe J.H., 1997. Explaining Educational Differentials: Toward a Formal Rational Action Theory. *Rationality and Society*, **9** (2), pp. 275-305.

Breen R., Hannan D.F., O'Leary R., 1995. Returns to Education: Taking Account of Employers Perception and Use of Educational Credentials. *European Sociological Review*, **11** (1).

Breen R., Ianalli C., Shavit Y., 1998. *Occupational Returns to Education in Italy: A Consideration of Rational Action Theory of University Attendance*. Transition in Youth Conference, Edinburgh, 1998, Working Papers, CES, University of Edinburgh.

Buck N., Gershuny J., Rose D., Scott J., 1994. *Changing Households: The British Household Panel Survey 1990-1992*. ESRC Research Centre on Micro Social Change, Colchester, Essex.

Bynner J., Roberts K., eds., 1991. *Youth and Work: Transition to Employment in England and Germany*, Anglo-German Foundation: Staples Printers Rochester Ltd, London.

Cobalti A., Schizzerotto A., 1998. Occupational Returns to Education in Contemporary Italy. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

Cohn E., Khan S., 1995. The Wage Effects of Overschooling Revisited. *Labour Economics*. 2.

Coleman J. et al., 1966. *Equality of Educational Opportunity*, U.S., Gout Printing Office, Washington D.C.

Daly A., Hitchens D.M.W., Wagner K., 1984. *Productivity, Machinery and Skills in a Sample of British and German matched Plants*. National Institute Economic Research

Erikson R., Goldthorpe J.H., 1992. *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Clarendon Press, Oxford.

Erikson R., Jonsson J.O., 1996. *Can Education be Equalised: The Swedish Case in Comparative Perspective. Westview Press, Boulder, Col.*

European Commission, 1993. *Growth, Competitiveness, Employment. The Challenges and Ways Forward into the 21st Century*, White Paper, 6/93, Luxembourg: EUR-OP.

European Commission, 1995. *Teaching and learning. Towards the learning society*. White Paper on education and training, Luxembourg: EUR-OP.

European Commission, 1998. *Les lignes directrices pour l'emploi*. Résolution du conseil du 15 décembre 1997, Luxembourg: EUR-OP.

Eurostat, 1996, *Europe in Figures*, Luxembourg: EUR-OP.

Eurostat, 1997. *Europe in Figures*, Luxembourg: EUR-OP.

Formation – Emploi, 1987. *De l'école à l'emploi*, Numéro spécial, numéro 18, avril-juin.

Freysson, 1996. *Europe in Figures*, Eurostat.

Freysson L., 1997. Potential Use of the Community Labour Force Survey in the Analyses of the Young. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, France. *In*: Werquin P., Breen R., Planas J., eds. *Youth transitions in Europe: Theories and Evidence*. CEREQ, Document Séminaires, number 120, Marseilles, March.

Furlong A., Cartmel C., 1997. *Young People and Social Change: Industrialisation and Risk in Late Modernity*. OUP, Buckingham, UK.

Furlong A., Biggart A., 1998. Unemployment, Neighbourhoods and Discouraged Workers. Proceedings of the fourth European Workshop on Transitions in Youth. Howth, Ireland, Sept.1997. CPA/ESRI, Dublin, 1998.

Gallie D., 1991. Patterns of Skill Change: Upskilling, Deskilling or the Polarisation of Skills? *Work, Employment and Society*, **5** (3), pp. 319-351.

Goldthorpe J.H., 1998. Rational Action Theory for Sociology. *The British Journal for Sociology*, **49** (2), June.

Goldthorpe J.H., 1996. The Quantitative Analyses of Large Scale Data Sets. *European Policy Review*, **12** (2).

Goux D., Maurin E., 1998. From Education to First Job: The French Case. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

Green F., Ashton D., Burchell B., Davies B., Felstead A., 1997. *An Analysis of Changing Work Skills in Britain*. Paper to Low Wage Employment Conference, CEPR, LSE, London. Dec. 1997

Groot W., Maasen H., van den Brink, 1998. *Job Satisfaction, Wages and Allocation of Men and Women*. Working Paper 10-98. LEO-CRESEP. University of Orleans, France.

Grubb W.N., Ryan P., 1997. *Plain Talk on the Field of Dreams: The Roles of Evaluation for Vocational and Education and Training*, Working Paper prepared for the Training Policies Branch, ILO, Geneva, October.

Halpin B., Chan T.W., 1998. Class Careers as Sequences: An Optimal Matching Analysis of Work-Life Histories. *European Sociological Review*, **14** (2), pp. 111-130.

Hannan D.F., Breen R. et al., 1983. *Schooling and Sex Roles: Sex Differences in Subject Provision and Student Choice in Irish Post Primary Schools*. Paper 113, ESRI, Dublin.

Hannan D.F., O Riain S., 1993. *Pathways to Adulthood in Ireland*, ESRI, Paper no. 161. Dublin.

Hannan D., Hovels B., Van den Berg S., White M., 1995. Early Leavers from Education and Training in Ireland, the Netherlands and the United Kingdom. *European Journal of Education*. **30** (3).

Hannan D.F., McCoy S., McCabe B., 1998. *Trading Qualifications for Jobs: Over-qualifications and the Irish Youth Labour Market, ESRI* / Oaktree Press, Dublin.

Hannan D.F., Raffe D., Smyth E., 1996/1997. *Cross-National Research on School to Work Transitions: An Analytical Framework*. OECD Working Paper 1996; published in: Werquin P., Breen R., Planas J., eds. 1997. *Youth Transitions in Europe: Theories and Evidence*. Cereq Seminar Papers, Marseille.

Hannan D.F., Raffe D., Smyth E., et al., 1998. *Education, Vocational Training and Labour Market Transitions ('VTLMT') amongst Lower Level School Leaves in Four European Countries*. Final Report. Leonardo, Surveys and Analyses Project, DG22. Brussels. (available as Working Paper from ESRI, Dublin).

Hannan D., et al, 1998. *Leonardo, Vocational Training and Labour Market Transitions in France, Ireland, the Netherlands and Scotland* (VTLMT), Final Report, Dec. 1998

Heath A., Cheung S.Y., 1998. Education and Opportunity in Britain. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

Heckman J., Smith J., 1995. Evaluating The Case For Randomised Social Experiments. *Journal of Economic Perspectives*, Spring.

Hitchens D.M., O'Farrell P.N., 1988. The Comparative Performance of Small Manufacturing Companies Located in the Mid West and Northern Ireland. *The Economic and Social Review*, **19** (4), pp. 177-198.

Iedema J.H., Müller W., Ridge J.M., 1997. Transitions into Independence: A Comparison of Cohorts Born since 1930 in the Netherlands. *European Sociological Review*. 13.2.

Janoski T., 1996. *The Political Economy of Unemployment Action: Labour Market Policy in West Germany and the United States*, University of Colorado Press, Berkely.

Jurado-Guerrero T., 1997. *The Four Spains of Family Emancipation: Cross Regional Differences in Transitions out the Parental Home*. Paper given a European TIY conference. Howth, IRL, 1997, published in Proceedings, CPA/ESRI, Dublin. 1998.

Kerchoff A., 1990. *Getting Started: Transitions to Adulthood in Great Britain*. Westview Press, Boulder, Colorado.

Kerchoff A., 1995. Institutional Arrangements and Stratification Processes in Industrial Societies. *Annual Review of Sociology*, 15, pp. 323-347.

Kirsch J.-L., Werquin P., 1995. Quelque part... une relation formation-emploi. Spécialité de formation et emploi occupé: le cas du BEP. *Formation Emploi*, numéro 52, p. 29-47, décembre.

Krahn H., 1997. On the Permanence of Human Capital: Use it or Lose it. *Policy Options*, **18** (6), IRPP, Quebec.

Konietzka D., Solga H., 1995. *Two Certified Societies: The Regulation of Entry into the Labour Market in East and West Germany*, ESF Transitions in Youth Conference, Available from ESF, France.

Lundvall B.A., Borras S., 1997. *The Globalising Learning Economy: Implications for Innovation Policy*. Report based on contributions from sever TSER projects. DGXII, Commission of the European Communities. Brussels.

Malinvaud E, 1980. *Réexamen de la théorie du chômage*. Éditions Calman-Lévy, collection Perspectives de l'économique. Économie Contemporaine, Paris.

Malinvaud E., 1983. *Essai sur la théorie du chômage*, édition Calman-Lévy, Paris.

Martin C., Raffe D., 1998. Lower Level Leaving and Desertion: their Level and Social Distribution in Four European Countries. *In*: Raffe D., van der Velden R., Werquin P., eds. *Proceedings of the 1998 European TIY Workshop*, CES, Edinburgh.

Maurice M., Sellier F., Silvestre J-J., 1986. *The social Foundations of Industrial Power: A Comparison of France and Germany*. MIT Press. Cambridge, Mass.

Meulders D., 1998. *Les politiques européennes de l'emploi*. Working Paper prepared for the Brussels International Meeting on Employment Policies, Free University – ULB, Brussels, 20-21 April.

Minguez A., 1998. *The Late Emancipation of the Spanish Youth: Keys for Understanding*. European Research Network on Transition in Youth, Annual Workshop, Edinburgh, September 1998.

Manacorda M., Robinson P., 1996. *Qualifications and the Laoour Market in Britain: 1984-1994. Skill Biased Change in the Demand for Labour or Credentialism?* Mimeo. CEPR, London.

Mortimore, Sammons D.P., Stoll L., Ecob R., 1998. *Schools Matter: the Junior Years*. Open Books, Wells. UK.

Müller W., Shavit Y., 1998. The Institutional Embededness of the Stratification Process. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*. Clarendon Press, Oxford.

Müller W., Steinmann S., Ell R., 1998. Education and Labour Market Entry in Germany. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

Murray, Steedman, 1997. *Changing skill profiles: cross country comparisons*. TSER paper.

O'Connell P., McGinnity F., 1997. *Working Schemes? Active Labour Markets in Ireland*. Ashgate, Aldershot, Hants: United Kingdom.

OECD, 1996; 1997; 1998. *Employment Outlook*. Paris.

OECD, 1995; 1996; 1997. *Education at a Glance*. Paris.

O'Farrell P.N., Hitchens D.M., 1988. The Relative Competitiveness and Performance of Small Manufacturing Firms in Scotland and the Mid West of Ireland: An Analysis of Matched Pairs. *Regional Studies*, **22** (5), pp. 399-416.

Raftery A.E., Hout M., 1993. Maximally Maintained Inequality: Expansion, Reform and Opportunity within Education. *Sociology of Education*, **66**.(1).

Recotillet I., Werquin P., 1998. *The determinants of employment over time among Lower Level Leavers – A case study for Scotland and France in the VTLMT program*. Interim Report to the Leonardo program.

Robinson P., 1996. *Studies in the Labour Market in the UK*, CEPR, Sept.

Robinson P., 1997. *Underskilled or Over-Qualified? Qualifications, Occupations and Earnings in the British Labour Market*, CEPR, Dec.

Robinson P., Manacorda M., 1997. *Qualifications and the Labour Market in Britain, 1984-1994: Skill Biased Change in the Demand for Labour or Credentialism?* Discussion paper 330, CEPR, Feb.

Rosenbaum J.E., Kariya T, 1991. Do School Achievements Affect the Early Jobs of High School Graduates? Results from the High School and Beyond Surveys in the USA and Japan», *Sociology of Education*, **64** (1), pp. 78-95.

Ryan P., 1997. Methods and Findings in School to Work Evaluation Research in the United States. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, France. *In*: Werquin P., Breen R., Planas J., eds. *Youth transitions in Europe: Theories and Evidence*. CEREQ, Document Séminaires, number 120, Marseilles, March.

Ryan P., 1998. Is Apprenticeship Better? A Review of the economic Evidence. *Journal of Vocational Education and Training*. **50** (2).

Schizzerotto A., Cobelti A., 1998. Occupational returns to Education in Contemporary Italy. *In*: Shavit Y., Müller W., eds. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

Schupp J., Büchtemann C.F., Soloff D., 1994. *School to Work Transitions: West Germany and the United States*. Transitions in Youth Workshop, Strasburg, Switzerland. Available from ESF, France.

Shavit Y., Blossfeld H.P., eds., 1993. *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*. Westview Press, Boulder, Col.

Shavit Y., Müller W., eds., 1998. *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, Clarendon Press, Oxford.

1208

Semeijn J., van der Velden R., Boone C., Gijselaers W., van Witteloostuijn A., 1997. *Graduates Learning Styles and Labour Market Entry.* Working Paper Faculty of Economics, Univ. of Maastricht.

Semeijn J., van der Velden R., 1998. *Why do Graduates end up in Different Jobs ? Apects of Learning Style and Labour Market Entry.* Working paper Faculty of Economics, University of Maastricht.

Smyth E., Surridge P., 1995. *A Comparative Analysis of School to Work Transition Patterns in Ireland and Scotland.* Paper to ESF conference on Transition in Youth, 1995. Published as ESF working Paper, Strasbourg.

Smyth E., Surridge P., 1997. Educational Differentiation and Occupational Allocation among School Leavers in Ireland and Scotland 1979-1981. Third ESF Workshop of the Network on Transitions in Youth, La Ciotat, France. *In:* Werquin P., Breen R., Planas J., eds. *Youth transitions in Europe: Theories and Evidence.* CEREQ, Document Séminaires, number 120, Marseilles, March.

Smyth E. McCabe B., 1998. *Transition Outcomes among Lower Level Leavers in Ireland, Scotland, the Netherlands and France*, European Research Network on Transitions in Youth, Annual Workshop, September.

Smyth E., 1999. *Do Schools Differ ?* ESRI/Oaktree Press, Dublin.

Sofer et al., 1995. TSER, PL95-2124. *Schooling and Transitions: An Economic Perspective*, University of Orléans.

Sollogoub M., Ullrich V., 1999. *Apprenticeship versus vocational school: selectivity bias and school to work transition.* STT working paper for the TSER Programme, WP 9-99.

Steedman H., 1997. *'Newskills'. 1996-1999. Education and Training: New Job Skills Needs and the Low Skilled*, CEPR, LSE, London.

Steedman H., Wagner K., 1987. *A Second Look at Productivity, Machinery and Skills in Britain and Germany.* Nat. Inst. Econ. Rev., 122, pp. 84-95.

Steedman H., Wagner K., 1989. *Productivity, Machinery and Skills: Clothing Manufacturing in Britain and Germany.* Natl. Inst. Econ. Rev. 128, pp. 40-57.

Tanguy L. (dir.), 1986. *L'introuvable relation formation/emploi. Un état des recherches en France.* Paris, La Documentation française.

TSER, 1996. *Guidance Note to Work Programme*, EU DGXII.

Trappe, 1995. The Persistence of Gender Inequality in Earnings in the Democratic Republic. *American Sociological Review.* **60** (3).

Trappe, Rosenfeld, 1998. A Comparison of Job Shifting Patterns in the Former East Germany with the Former West Germany. *European Sociological Review.* **14** (4).

van der Velden K.K.W., van Smoorenburg M.S.M., 1997. *The measurement of Overeducation and Undereducation: Self-Report vs. Job-analyst method.* Research memorandum. Maastricht: Research Centre for Education and the Labour Market.

List of TSER (1995/6 to 1997/8) Research Projects (selectively) reviewed in this document.

(Contract no., dates, title and name of main co-ordinator given in that order. References for individual papers within each of these projects, where such papers are available, are given in the synopses of TSER programme)[16]

CT95-2003: CRIVET Unemployed: The effectiveness of Labour Market Training for the Long Term Unemployed. Coord.: Brandsma, Univ. of Twente.

CT95-2004: EVALUE: Evaluation and Self Evaluation of Universities in Europe. Coord.: Dubois, Univ. Paris X – Nanterre.

CT95-2006. 'Newskills'. 1996-1999. Education and Training: New Job Skills Needs and the Low Skilled. Coord.: Steedman, CEPR, LSE, London.

CT95-2008. European Network for Educational Research on Assessment, Effectiveness and Innovation. Coord.: Pelgrum. University of Twente.

CT96-2009: DELILAH: Designing and Evaluating Learning Innovations and Learning Applications. Coord.: Cullen, The Tavistock Institute, London.

CT96-2016. 'Worktow'. 1997-1999. Changing Working Life and Training of Older Workers. Coord.: Tikkanen, Univ. of Jyvaskyla, Finland.

CT98-2039. 1998/9-2001: Development de la formation et marche de travail. Coord.: Mallet, Univ. de Toulouse.

CT97- 2019: 'CATEWE': Comparative Analyses of Education to Work Transitions in Europe. Coord.: Hannan, ESRI, Dublin

CT97-2018: Governmental Policies and Programmes for Strengthening the Relationship Between Higher Educational Institutions and the National Economy. Coord.: Maasen, Univ. Twente, Enschede.

CT97-2023. 1997/8-2000: Higher Education and Graduate Employment in Europe. Coord.: Teichler, Univ. Gesamthochschule, Kassel.

CT97-2012: 1996/7-1999: STT: The Comparison of Educational Systems – Schooling, Training and Transitions. Coord.: Sofer, Univ. of Orleans.

CT97-2028: 1997/8-2000: Education Governance and Social Integration and Exclusion in Europe. Coord.: Lindblad, Uppsala Univ.

CT98-2038: 'Compete'. Competence Evaluation and Training for Europe. Coord. – Cullen, Tavistock Institute, London.

CT98-2042: 'New Assessment Tools for Cross-Curricular Competencies'. Coord.: Reeff, Min. de l'Education, Lux.

[16] See synopses of TSER Programme
i) 1996: First call for proposals, March 1995 to June 1995;
ii) 1997: Second call for proposals, October 1996 to January 1997;
iii) 1998: Third call for proposals, September 1997 to January 1998.

Selection, social exclusion and training offers for target groups

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Abstract

This paper discusses the key concepts of social exclusion and inclusion, the potential target groups and their specific problems. Target groups are underrepresented in labour market and training programmes. The crucial factors of exclusion are analysed from an institutional, an economic, a psychological, a socio-cultural and a policy perspective.

Discussed are the accessibility of programmes and the difficulties to comply with administrative selection criteria. The most important factor of exclusion programmes is the need for efficiency that is imposed on the programmes and their organisers. The shift towards privatisation and the tightening of the funding requirements results in creaming off effects and reduces training to a short-term solution. Any gap between restricted selection possibilities and strict output targets creates a 'double bind tension' for the training organisation that has negative consequences for the trainees.

Policy recommendations refer to:

- *efforts to re-integrate the 'hard core' target groups by using their problems as benchmarks;*
- *taking account of the cultural dimension by the development of clearly defined 'management cultures' or 'organisational cultures';*
- *decreasing the gap that separates the employment situation from the training situation, directly through financial and other support and indirectly through a secure job perspective;*
- *the development of the long-term dimension of 'trajectory guidance'.*

1211

Table of contents

Introduction 139

1. The context 139
1.1 From social exclusion to social inclusion 139
1.1.1 Social exclusion 139
1.1.2 Social inclusion 140
1.2 The labour market 141
1.2.1 Problems of specific target groups 141
1.2.2 'Social economy' 142
1.3 Training for the labour market: a typology of relevant training measures 144
1.4 Exclusion from the labour market and from training programmes 144
1.4.1 The recruitment behaviour of firms as a factor in selection processes 145
1.4.2 Trapped between unemployment trap and training trap 146

2. Labour market policies and training policies need coordination 147
2.1 Coordination or 'creaming off' 148
2.2 Coordination or a lack of continuity 148
2.3 Coordination or perverse effects (unemployment and training traps) 149
2.4 Coordination with other services 150
2.5 Coordination at the local level 150

3. Exclusion from training programmes 151
3.1 Exclusion through selection procedures (institutional) 152
3.1.1 Who is entitled to participate? Administrative criteria 152
3.1.2 Officially registered unemployed 153
3.1.3 Minimum duration of unemployment 154
3.1.4 Different selection criteria acting as a filter 154
3.2 Exclusion through the need for (economic) efficiency 155
3.3 Funding requirements and the need for efficiency 156
3.3.1 Targets and creaming off 156
3.3.2 Tendering and competition in the training market 156
3.3.3 Funding insecurity and short term solutions 157
3.3.4 Possibility of selection and 'double bind tension' 158
3.3.5 Range and kind of activities 158
3.3.6 Managerialism 159
3.4 Motivation and (non-)participation (psychological) 159
3.4.1 Typologies of motivation 159
3.4.2 Motivation and (non) participation in training programmes 161
3.4.3 Correspondence of provisions and needs 161
3.5 Exclusion through cultural clashes (socio-cultural aspects) 162
3.5.1 Socialisation and acculturation patterns 162
3.5.2 Implications of this approach towards the unemployed 163
3.6 The social and policy context 164
3.6.1 Budgetary constraints 164
3.6.2 Active labour market policies 164
3.6.3 Training as an active labour market policy 165
3.6.4 Compulsory features in active labour market policies 165
3.6.5 Activation and the availability and quality of jobs 166
3.6.6 Reasons for increasing popularity 167
3.6.7 European guideline for a preventive policy 167

4. Conclusions 168
4.1 Conclusions for further research 168
4.2 Conclusions for policy makers 169
4.3 Conclusions for people responsible for training organisations 169

Bibliography 170

1212

Introduction

This contribution addresses exclusion from the labour market and the role of certain forms of vocational training in promoting inclusion into the labour market. This implies that we will focus on the role of specific training offers in preparing socially excluded persons for a job. The field of inquiry is restricted to

- forms of training with a strong vocational focus;
- forms of training that are specifically organised for persons outside the labour market;
- external training initiatives. Training at the workplace is taken into account insofar as it is linked to external training offers. Social economy initiatives, however, also are included because of their importance for our target groups.

Our approach is rather conceptual and theoretical. Although it was one of the aims at the onset of this contribution, the situation and policies of different EU countries are not described. Neither did we include empirical data concerning participants in training programmes or national evaluations of measures. On the very specific strand of vocational training that is the subject of this contribution no overall data are available, even not at the national level, mainly because of the extremely large array of types of initiatives and the fact that they are often very locally embedded. In Belgium alone, 141 schemes to facilitate the transfer to the labour market have been identified and most of them imply some kind of vocational training. General data on participation of target groups and evaluation of measures relate to 'traditional' forms of vocational training. They were discussed by Nicaise and Bollens (1998) in their contribution to the 1998 background reports.

How will we proceed?

- *Firstly*, a coherent conceptual framework that focuses on the concepts of social exclusion and social inclusion is developed. This framework presents an overview of general causes of exclusion from the labour market and of exclusion from training initiatives.
- *Secondly*, the groups affected by social exclusion, paying special attention to the labour market dimension, are discussed, taking account of institutional and other contextual factors such as the selection procedures. Special attention is paid to employment niches for target groups, especially the social economy sector.
- *Thirdly*, a general typology of these measures is elaborated, taking account of economic, psychological, sociological and institutional variables.
- *Fourthly*, the conditions for a framework to coordinate policies at several levels will be discussed.
- *Lastly*, activation policies are discussed in terms of their possible impact on vocational training. It is quite clear that they will constitute the intellectual and policy-making framework for future training programmes or policies.

1. The context

1.1 From social exclusion to social inclusion

The concepts of social exclusion and social inclusion are relevant at the theoretical and the policy-making level, particularly with respect to the relationship between the labour market and vocational training.

1.1.1 Social exclusion

Two main definitions of social exclusion are commonly used. One is inspired by the Anglo-Saxon tradition of citizenship, the other by the continental idea of societal gaps. From the first perspective, social exclusion is described 'in terms of denial or non-realisation of social rights (Room, 1991: 5), such as 'the right to a certain standard of living' or, more specifically, the right to labour, to housing and to educa-

tion. Social exclusion, then, implies that access to these rights is, knowingly or unknowingly, restricted by the manner in which social services are organised or by the vulnerable economic, social and political position of certain citizens.

For the other, continental, tradition the notion of social exclusion concerns the gap that exists between situations or groups in one or more areas of social life. This notion of social exclusion can refer to situations and processes such as polarisation, discrimination, poverty, and inaccessibility. In order for society to arrive at such a situation, it must be structured according to a centre/periphery relationship, while society's means (economic, social and cultural capital) must be distributed unevenly. Of crucial importance in this respect is, of course, the fault line, which may manifest itself as a gap, a wall, or a barrier.

The distinction between relational, spatial and societal fault lines (Vranken, 1997) is an answer to what is probably the most crucial question with regard to social exclusion, namely exclusion from what? (see among others Silver, 1995: 60). Indeed, the reference points of social exclusion are situated at the micro-level (of individuals and their networks), at the meso level (of groups, institutions) and at the macro-level (of society).

The first reference point is that of the individuals and their networks. Relational fault lines refer to the fact that poor people's networks provide no, or very limited, access to important social commodities (or to economic, social and cultural capital). Social exclusion may, then, be seen as the result of exclusion from the exchange in relationships that is part of participation in social networks. 'Gatekeepers' have the power to decide whether or not to allow through the flow of commodities persons or institutions, because they occupy a central position within a social network. By depriving people or groups (the lowly qualified, immigrants, the homeless) from social commodities (employment, housing, education, income, status, power) they create social exclusion (see also Vranken, Steenssens and Pultau, 1996: 57). With respect to the labour market, we are referring to personnel managers, labour exchange administrators, project managers, vocational trainers. Although they are bound to existing legal and administrative rules, many ways remain open to exercise a determining impact on selection processes and procedures regarding training, such as regarding the information that is provided, the linking of particular persons or groups to job opportunities, etc.

A second reference point is groups or group-like phenomena. Social closure is the process whereby social groups attempt to acquire, increase, or maintain rewards by restricting access to sources or opportunities to a small circle of a happy few. The purpose is to monopolise opportunities in life which others too find desirable, i.e. the *closure* of such opportunities to outsiders (Weber, 1922/1956: 201). Groups which fail to achieve any monopoly must compete with each other on the open market and are subjected to its levelling effects. The groups thus excluded often respond by imposing boundaries on even weaker groups, which results in so-called 'dual closure' (Parkin, 1974). The consequence is twofold: the creation of an uneven distribution of opportunities in life and of closed social relations and communities. This form of social exclusion is not unknown on the labour market; some 'closed shop' strategies or forms of ethnic discrimination are illustrative.

The third point of reference concerns societal structures and processes. The central question in case of societal fault lines is whether society as a whole or important areas of it are divided into subsocieties. Illustrations are the dual labour market or the increasing opposition between 'earned' income versus 'welfare' income, in terms of power and status.

1.1.2 Social inclusion

Inclusion, as with social exclusion, is a multidimensional concept. A high density of co-operation within the group, a strong identification with the group, and a large set of shared values and orientations are usually taken as signs of inclusion. Active participation is also a crucial issue; it implies a socialisation process, which incorporates individuals and groups at different levels of society. These

1214

forms of social inclusion already refer to more than mere bonds between the individuals and include relationships between individuals and institutions.

Inclusion in society takes place through different sets of roles. The first set is related to the roles that people adopt from their position as producers. The second set refers to their position as consumers. The third concerns their position as citizens and the fourth their position in different 'public' social networks (such as associations, but not family networks). It is commonly accepted that overall social inclusion is fundamentally rooted in labour market inclusion (or economic inclusion in a larger sense).

Different forms of social inclusion are present in these sets of roles: cultural, normative, communicative and functional inclusion (see also Landecker, 1951). Cultural inclusion is about the concordance between different cultural standards (such as between that of the labour market and that of the long-term unemployed or subsistence beneficiaries, or between the dominant culture and a so-called 'culture of poverty'). Normative inclusion refers to the concordance between these standards and behavioural patterns (does the 'management culture' of training initiatives exist just for the public eye or do trainers behave according to these standards?). How deep are common symbols embedded in society and groups and how widely are they accepted is what communicative inclusion is about? The degree of reciprocal dependence is the subject of functional integration: does the labour market need vocational training initiatives and is this the case for all types of vocational training? These forms of exclusion will underlie a number of discussions in this paper, particularly those in chapters 3.4, 3.5 and 3.6.

1.2 The labour market

1.2.1 Problems of specific target groups

The list of population groups affected by social exclusion is long, very long indeed. It includes larger or smaller sections of the elderly, the disabled, the illiterate, most of the homeless, people living in institutions (psychiatric wards, prisons), people living in ghetto-like neighbourhoods, asylum seekers, most of the long-term unemployed or low-skilled, and the poor in general. Their exclusion is the result of insufficient economic, social or cultural capital in one or more of the important societal domains: housing, health, social networks, income, and – last but not least – education and work. Being excluded from any of those fields generates problems, the more so if it is about exclusion from education or work. Overcoming any form of social exclusion nearly always implies external help, be it social work, special housing programmes, special training programmes or the creation of jobs adapted to the particular skills and handicaps of the persons concerned.

Target groups with respect to the labour market refer to persons who have a considerably smaller chance of finding a job; if they succeed in doing so, the jobs they access are usually marginal ones. Their marginal character refers to characteristics such as employment insecurity, low pay, bad working conditions, low degree of social protection, very high flexibility or low degree of unionisation; in short, characteristics of the secondary labour market. Target groups thus are 'groups at risk' and have been identified on the basis of numerous analyses of statistical, administrative and other databases. It is not our intention to reproduce these results in detail; we suffice with a general picture. We will, however, elaborate on some of their specific problems.

The usual criteria for defining risk groups regarding the labour market are: gender, age, educational level (or level of qualification in general), household status, nationality, occupation, and economic sector. The groups at risk then are younger or older employees, women, the unemployed in general and the long-term unemployed in particular, the low-skilled, early school-leavers, sick or disabled persons, people on means-tested benefits, political refugees or asylum seekers and ethnic minorities in general; they may also be combinations of these subgroups. The 'poor', for example, are disadvantaged in many respects.

Although these people form a heterogeneous group, most of them have one common char-

acteristic: low educational and skill level. This common characteristic, however, presents itself in many forms. Let us mention an inadequate knowledge of the native language (migrants, asylum-seekers), obsolete vocational skills (older workers, the long-term unemployed), lack of work experience (the young and, again, the long-term unemployed), and loss of appropriate work attitudes. The loss of appropriate work attitudes constitutes a particular handicap that is often underestimated. Indeed, it usually takes a rather long period to familiarise the target groups with things such as sticking to time schedules, meeting strict requirements, integrating into a team, accepting authority, and concentrating on one task for a longer time.

Next to these handicaps regarding job requirements, a series of other deprivations outside the work situation permanently threatens their work capacities. Bad housing conditions, bad health and insufficient health care, family problems, household responsibilities (for women), and (ethnic) discrimination are just some of the many factors that could be mentioned in this context.

Only a few Member States retain women as a target group for training measures (Joint Employment Report, 1997). In Luxembourg, several training programmes which focus on women (including women returnees) have been created. In the context of the European year on lifelong learning, a special project for (young) women was established. In Ireland, 'back-to-work skills' are provided for women who have been out of the labour force for a long period of time. The integration of women returnees is also a priority in Austria, where more than 7,000 women found a job through career guidance courses, skill training opportunities and employment projects.

Of course, not all of the socially excluded are target groups for vocational training, although most of them would benefit from some form of training. Later on, we will discuss target groups for training that are expected to reintegrate into the labour market, either the dominant one or some alternative labour market ('social economy').

1.2.2 'Social economy'

When can a certain activity be labelled as 'social economy'? The classical definition of the social economy is that it 'brings together the economic activities generated by co-operatives, mutual insurance organisations and associations with the following ethical principles:

- service to the members or the community rather than profit;
- autonomous management;
- democratic structure;
- priority of labour and people over capital in the sharing of profits' (Defourny, 1997: 51).

The definition of newer forms of social economy, as they have manifested themselves over the past few decades, is a combination of criteria from the above classical definition and of new elements. The latter can largely be inferred from historical developments, and more particularly from the renewed interest in the 1970s.

First of all it could be stated that the initiatives in the 'new social economy' should reasonably not belong to the 'established' social economy. In addition, the organisations are to be involved in an economic activity and should neither belong to the public nor to the private sector. This positioning of the social economy *vis-à-vis* the private profit maximising market sector, on the one hand, and the public sector, on the other, remains one of the most important identifications of the third sector. In contrast to what happened in the 19th century, the social economy of today does not want to take the place of the capitalist system, but would like to function in a complementary manner (Monzon Campos, 1992: 25).

Beside their economic objectives, these organisations wish to accomplish social objectives. These objectives are related to the problems generated by classical economic models that apparently cannot be solved by the public sector. The issue here is a shift in sectors where new needs have arisen. The 'old sectors' where the social economy attempted to meet needs

1215

were as follows: savings and credit; social housing; consumer goods; social and medical care; culture, information and press; mutual and co-operative insurance; and employment. The needs of today, however, are to be found in different sectors: ethical savings and investments; renovation; recycling; new care needs; and employment. Present initiatives undoubtedly focus most of their attention on the unemployment problem by creating employment and taking special care of people in high-risk groups. In the industrialised countries a rising number of co-operatives and associations are being established with the aim of social integration through labour. This employment creation is also often linked to environmental objectives by the pursuit of environmentally friendly production processes, products, and integrated environmental protection. This is how the new social economic sector of nature conservation, recycling, and renovation came about. Depending on the problem that needs to be solved, the nature of the social-economic organisation varies, although certain problems can be tackled simultaneously. In this way, the social economy has absorbed a number of functions from the public sector, which is increasingly withdrawing from certain areas of social life.

A second characteristic that has clearly been placed to the fore is the local nature of the activities, although this feature is not really new. In spite of increasing economic internationalisation, the third sector remains primarily rooted in local or regional initiatives. This is a response to the call for local identity and solidarity as a result of that globalisation. Through their ties with new or old social movements, initiatives are chiefly started from the base. This also results from the need for influence on the production process and the need for transparency, which led to the foundation of numerous consumer organisations. The relationship with consumers is also given special attention by the newer forms of social economy.

In addition, the new social economy has kept a number of criteria of the classical definition. First of all, service to the members or the community is still taking precedence over profit making, and there is a related priority of labour over capital. The pursuit of a democratic structure is considered equally important. Because most of the organisations are created from the base, it can also be assumed that the principle of management autonomy is preserved, even though it will appear that contemporary forms of social economy often do not match this criterion. According to international discourse on the subject, the legal form of the initiative is of lesser importance in the contemporary forms of social economy than in the classical forms (Westerdahl, 1998: 197), even though the organisations concerned have a strong tendency to assume certain forms of legal incorporation.

On the basis of the above definitions a number of questions can be formulated, which should allow us to distinguish social economic organisations from other organisations. Is the organisation concerned engaged in economic activity? Is this activity situated between that of the private sector on the one hand and that of the public sector on the other? Is this activity linked to social objectives? These objectives can be related to a number of factors: (un)employment; social integration of the socially excluded and the poor; ecological objectives; the provision of services that respond to a pressing individual or collective need, neglected by the public sector; durability of production quality; or a combination of these objectives. Does the realisation of these objectives take priority over making a profit and does labour take priority over capital? Is there management autonomy? Is there an endeavour to establish a democratic structure? Is any attention paid to transparency and the quality of relationships? Was the organisation founded bottom up? Does the organisation assume a legal form typical for the social economy (cooperative society, mutual insurance organisation, non-profit organisation, registered charity)? And finally, in order to be able to distinguish the classical from the new social economy: Does the initiative belong to the 'non-established' (or new) social economy?

Depending on the number of positive answers to these questions, an initiative will be further from or closer to the ideal type and thus to the core of social economy. Social economic organi-

sations are therefore 'different' from the other two sectors in relative and not in absolute terms (Seibel and Anheier, 1990: 12). Also, the criteria were more or less formulated in order of importance. It should be clear that an initiative that does not match the first criterion, does not belong to the 'third sector' at all.

1.3 Training for the labour market: a typology of relevant training measures

As discussed in the introduction, we are focusing on training of a vocational nature provided by external training organisations to persons who are out of work. Training at the workplace is taken into account insofar as it is linked to external training courses. Initial vocational training thus is not considered in this contribution for two reasons. It would widen our target population too much. Indeed, although youngsters on initial vocational training posses a number of characteristics that are typical of risk groups, they still have the capacity to prevent their exclusion from the labour market. Moreover, the introduction of initial vocational training would increase the institutional and programmatic array of our field of research to such an extent that it would become unmanageable. We prefer to focus on more acute situations of exclusion.

External training courses for excluded people are usually designed and managed by organisations that do not offer permanent jobs themselves; that is, except for social economy initiatives. Given the type of training that is needed, the provider then acts as an independent training centre. At best, the training initiative focuses on a certain sector but mostly, there is no direct relation with a specific enterprise. This does not prevent training being organised within a particular enterprise of the sector that is targeted by the training, such as hospitals or related institutions in a programme to train 'logistic health assistants' for example. In many cases, the accumulation of problems in the target group requires training in many respects: work attitudes; vocational training; work experience; and sometimes even literacy training. This means the planning of a 'trajectory' or 'pathway' with successive periods of training, coaching, teaching or practical experience, of using the tools of work, either at the training centre or in the work situation. (European Commission, 1997: 85)

Training in a work situation is less relevant for excluded people, except for social economy programmes. It means that training is organised in an environment that largely resembles the likely place of work of the future; this environment may even be simulated. Training in a work situation possesses a number of specific features. It often includes practical experience using appropriate tools. Often, it is very specific to the future work of the trainee. Its primary purpose should be the development or improvement of skills. In the case of a 'social economy enterprise', however, it also contributes to the enterprise's output. In this case, however, the enterprise itself can be considered to be a 'learning experience'. Because social economy initiatives provide us with a stimulating context for vocational training initiatives, we will pay specific attention to them.

1.4 Exclusion from the labour market and from training programmes

Unemployment and exclusion from the labour market has been a major social issue in European welfare states for the past two decades. A first explanation lies in the fact that we have come to regard unemployment in a different light. In the 1980s, policy-makers tended to reduce the unemployment issue to a question of market trends. And even if unemployment was referred to as a structural problem, it was in terms of a mismatch in the labour market to which the appropriate schooling and training policies could formulate an answer.

Unemployment rates have always been unevenly distributed among different population groups. Crucial factors in determining the unemployment risk are gender, age, health situation, educational level, and ethnicity. These lead to an overrepresentation of women, elderly, disabled, lower educated and migrants in unemployment statistics. It was not until the late 1980's, however, that policy-makers came to fully recognise the structural

1213

nature of unemployment and more in particular of the rather permanent exclusion of certain population groups from the labour market. That period was characterised by the phenomenon of jobless, and even job loss, growth. Besides of the recognition of unemployment as a structural and qualitative problem, a consensus grew about new fault lines and high-risk groups. It became clear that the poorly qualified were finding it the most difficult to keep their jobs, let alone to re-enter the labour market.

This large gap between high skilled and low skilled and the question of how to bridge this gap, is often called the 'new social issue' (Rosanvallon, 1995). Usually, the term is narrowed down to the question of how the growing group of poorly qualified and/or long-term unemployed people and individuals who are totally dependent upon income support can be re-involved or more closely involved in society, through the (labour) market or otherwise. Thus, the problem is restricted to the structural gap between predominantly highly skilled insiders and a (growing) group of mostly unskilled outsiders. Training, in this respect, is seen as the ultimate instrument to bridge this gap.

1.4.1 The recruitment behaviour of firms as a factor in selection processes

Reasons for this uneven distribution of labour market exclusion have been looked for at both the supply and demand side of the labour market. On the demand side, recruitment behaviour of firms has been the subject of much research. Main conclusions have become part of the theoretical framework of labour (market) sociology. A useful framework to understand the relative importance of these factors and their interrelations, is that of the segmented labour market, such as the typology developed by Mok (1994). Selection processes that lead to social exclusion will take place mainly within both the internal and external secondary labour market segments; the firms' recruitment behaviour will be different according to whether the internal or external segment is involved. This is so because the type of jobs, and thus the type of workers the firms are looking for, are different in both segments. The secondary internal segment is made up of lower skilled operational staff whose knowledge is largely based on workplace experience. This segment is very sensitive to technological developments. These have resulted in a decreasing demand for specialised workers. Since the supply remains high, employers possess a high degree of choice. The secondary external market is populated with an even weaker set of population groups: marginal workers who lack specialised vocational skills and who have been stigmatised by social or physical handicaps.

Phenomena such as 'statistical discrimination' and 'crowding' are frequently used as mechanisms for selecting workers in both segments. Statistical discrimination refers to the fact that employers do not employ certain categories of workers because they suppose that they are less productive or do not show the behavioural pattern that is expected, because of their ethnic characteristics or gender. These characteristics thus become stereotyped and are used as arguments for not employing migrant or women workers, irrespective of their individual capacities.

Crowding (or vertical segregation) is rather typical of recruitment behaviour regarding women. It is based on certain stereotypes regarding women (emotionality, lack of dominance, manual dexterity, moral behaviour) and leads to a negative selection, directing women to less qualified jobs and obstructing their access to more desirable jobs.

Labour market research also has illustrated a third mechanism; that employers prefer workers that already have a similar job over unemployed workers. This has been compared to a train in movement: it is easier to move from one compartment to the other than to jump on the train. The long-term unemployed are particular victims of this mechanism and are the more so, the longer they remain unemployed.

A more general factor is that of 'social closure', which is operated not only by employers but also by workers and their organisations that are already 'in'. Access is limited by defining

conditions of entrance that are not related to the job capacities that are required. These conditions can be formal (diploma, age, unionisation) or informal ones. The latter relate to personality or attitudes.

Substitution effects are another important element. With the recent return to higher and sustained growth figures, the related improvement of the labour market and policies that are supportive of the reintegration of low skilled workers into the labour market (activation, reduction of the labour costs of lower paid employees), however, these effects seem to become less important. These developments have had an impact on both the substitution of the lower skilled in their jobs by higher skilled personnel, and the replacement of the lower skilled through machines.

From this brief review of the recruitment behaviour of firms, it should become clear that it is not sufficient to increase or to ameliorate the human capital of persons excluded from the labour market. More structural and institutional barriers are at stake in overcoming the gap between 'out' and 'in' in the labour market.

1.4.2 Trapped between unemployment trap and training trap

Traditionally, poverty policies have discussed how to avoid the 'poverty trap', which prohibited escape from poverty because of the attractiveness of subsistence income and related poverty schemes compared to the alternative. Lately, the focus has shifted to a comparable 'unemployment trap'. In general, the unemployment trap refers to the fact that an unemployed person is not significantly better off when he takes up a job, and sometimes is even worse off. The factors that account for are, firstly, the relationship between wage and unemployment benefit or subsistence income. Sometimes, the worker also loses related benefits such as higher family allowances or lower tax impositions. Finally, additional costs, such as travel or child care, often reduce the improvement in income obtained by the shift in status or even offset it totally. The question remains whether the non-financial dimensions of a job, as listed in Jahoda's 'latent deprivation model' (Jahoda, 1982), are enough to compensate for the absence, or low level, of a financial stimulus. Specifically, this refers to the labelling the unemployed as compared to the status of having a job, in combination with socio-psychological impacts of unemployment, the obsolescence of skills and the disappearance of work experience and work attitudes. If the total advantage is insufficient to stimulate the transition from unemployment to employment, unemployment beneficiaries are trapped in their unemployment. This unemployment trap may imply a poverty trap when both unemployment benefits and wages are insufficient to guarantee a subsistence income. This is supposedly the case at the lower end of the US labour market, where even a double income sometimes does not suffice to obtain a decent level of living.

A similar effect has been found when target group individuals taking up training courses are worse off, at least financially, than when on benefits. We could call this the 'training trap'. When benefit is supplemented with earnings from informal or black work, training can lead to a substantial income loss. In short, sometimes a financial stimulus to take up training is absent and the person on a minimum income scheme or on unemployment benefits is trapped in his/her jobless situation.

Even if training allowances are provided, however, other financial constraints remain. Participation in training programmes could be considered a 'risky investment'. Indeed, training implies an investment because participants have to meet a number of expenses (such as transport, childcare, learning materials) and are at the same time expected to postpone job-seeking activities. Moreover, a 'deferred gratification pattern' is usually not one of their characteristics. At the same time, training carries a risk because the outcome is far from certain. This is particularly so in periods of low economic activity and high unemployment.

On the other hand, remuneration while in training can not be too high. In that case, the inflow into training programmes would be very much stimulated but outflow from training to a job would be obstructed. This perverse

1220

effect is usually avoided by the fact that training schemes are limited in duration and accessibility. However, both considerations imply that an adequate remuneration while in training means that both the 'unemployment trap' and the 'training trap'[1], are to be avoided.

2. Labour market policies and training policies need coordination

Why is coordination so important in this matter? Society has become more differentiated and therefore more complex; vocational training and labour market policies are embedded in these developments. The structural nature of long-term unemployment, the gap between skills and schooling, new forms of social exclusion, the number of actors involved and the shifting balance of power between them, the development of new policy instruments, the definition of new policy objectives, the call for 'inclusive' policies and for integrated 'trajectories' or 'pathways' for the target groups are but some of the relevant developments. All in all, it is possible to identify four types of this increasing complexity (differentiation) and of the resulting need for (more) coordination. They are the result of the combining of two dimensions. The first refers to the axis vertical/horizontal, the second to the axis actors/fields. The table provides an illustration of the four types.

In the end, these aspects can be subsumed under two types of coordination: 'inclusive policies' and 'governance'. The former is in the coordination between sectors, especially between the so-called 'soft' (training) and 'hard' (employment) sectors. In Belgium this has led to a debate about the need for 'inclusive' policies. 'Governance' is mainly about the *coordination* between agencies, institutions, and programmes in the administration of policies. Coordination is particularly considered a problem in the field of social policies because of the many institutions and agencies that are

Table 1: Coordination – levels, actors and fields

Levels	Actors	Fields
Horizontal	Private and public actors	Integration trajectories
Vertical	Multilevel actors	'Hard' and 'soft' sectors

Source: the authors.

active in the field. The number of relevant decision-making levels (European, national, regional, and local) particularly increases the need for crossovers between policies.

Let us first discuss the vertical dimension of coordination and continue with the horizontal dimension. Policies often are strongly top-down in character. Recently, new programmes have given more autonomy to local authorities. Ideally, central government should develop the general policy framework and define objectives; this policy should then be implemented and realised at the local level, through partnership with private agencies and by choosing means adapted to the local situation to achieve the identified objectives. Results then should be evaluated by central government.

NGOs (non-governmental organisations) are important providers of different kinds of vocational training. They are largely financed from national, regional or local public authorities and they often are obliged to act in accordance with the regulations of these authorities, especially regarding labour exchange, unemployment provisions and other labour market regulations.[2] The strictest regulations, however, are administrative and budgetary ones and concern the realisation

[1] This means that three traps have been identified: the benefits/training trap, the training/job trap, and the benefits/job trap that is more than just the sum of both former traps.

[2] In a recent comparative research report, Frade and Darmon conclude that, with regard to the organisations providing training, a considerable shift in the status of these organisations has taken place: from the public to the private and/or voluntary sector. Furthermore they notice the increasing introduction of competition in the sector, in the form not of a proper training market, but of quasi or pseudo markets differently defined according to the rules for tendering (Frade and Darmon, 1998: 1).

1221

of higher targets with fewer and stricter controlled means that cannot be used as flexibly as is needed, given the target groups' characteristics and needs. Some experiences suggest that NGOs must often take on the responsibilities of (local) public authorities that are often more concerned with obtaining their full share of available funds and then spending it, not on new projects, but on their regular activities.

Sometimes, actors from civil society oppose the public authorities' idea of what vocational training policies should and could be. This can be explained by the fact that they possess the professional capacity and do most of the work, whereas the other side gets the money. NGOs however, at least not the ones that are active in training, do not control the levers of power. Some do, such as pillarised[3] organisations. The plurality of these welfare organisations and their different organisational interests adds complexity to coherent planning and coordination and common initiatives.

Decentralisation is primarily a vertical process, influencing the way in which policies are formulated: from the top down or from the bottom up. However, it has an important horizontal dimension: it necessitates (better and more) coordination between authorities, public services, social partners and NGOs at the local level. This coordination is complicated by a large variety of institutions and agencies operating at an intermediate level; these are public, semi-public and non-governmental organisations. Do local authorities have the powers for this? Does the central (regional) government offer new possibilities to local authorities so as to develop more autonomous policies, or are local authorities rather used as an instrument to get more grip on the heterogeneous and incoherent field of initiatives?

[3] Pillarisation refers to the vertical segmentation of civil society according to ideological lines, a phenomenon that still dominates Belgian society and used to be even more important in the Netherlands. It implies that the whole range of organisations (labour unions, mutual aid societies, social, economic, cultural and even leisure associations) is duplicated for each 'pillar' (the catholic, the socialist and the liberal) and that they are financed from public funds.

What is the position, the role of the 'regular' (subsidised) private welfare sector in these programmes? With concepts such as 'policy networks' and 'inclusive policies', some participants try to structure the new framework that has emerged from the recent changes in institutional relationships and the socio-economic conditions.

The crucial question is how the different actors co-operate in order to achieve a coherent policy with common objectives, a coherent set of measures and a smooth partnership between the different actors.

Two levels can be distinguished: the policy level and the service level. For each level we have to define the coordination objective separately:

Approaching vocational training policies from the point of view of coordination (between different fields, between different levels) helps us to identify several crucial problems. We mention the most important ones:

2.1 Coordination or 'creaming off'

One of the problems is that the success rate of policies and projects is often influenced by the fact that the long-term unemployed and other disadvantaged groups are not only marginalised in the labour market. They also are at a disadvantage in selection for reintegration programmes, and thus further excluded from the labour market and society as a whole (Nicaise et al., 1995: 70-82; O'Connel, 1997: 122, 135).

A bottom-up approach that focuses on the most marginalised groups (people on means-tested benefits) should enable us to find examples of good and bad practice. These refer to measures that have been taken in order to promote access for these groups to the different programmes, or to examples of why this access is not successful in employment measures that should be accessible to people on means-tested benefits.

2.2 Coordination or a lack of continuity

The majority of the people receiving means-tested benefits have been excluded from the

1222

Table 2: Different levels and outcomes of coordination efforts

Level of coordination	Result of coordination
Policy level (national and/or regional government, local authority)	Development of a clear policy perspective and of concrete policy objectives. Translation of these objectives into a coherent set of policy programmes and measures (including avoiding of perverse effects, such as 'training traps' and 'unemployment traps').
Service level (service providers can be national or regional employment offices or welfare offices, local services administered by local authorities or by NGOs)	Offering a complete and coherent set of services to people of working age receiving means-tested benefits. Focus on organisational and institutional dimension.
Individual level (target group level)	Develop 'trajectories' or 'pathways' according to the individual needs of the applicants so as to improve their (social, cultural, economic) capital needed for integration on the labour market.

Source: Vranken and Geldof, 1999.

(primary) labour market for a long time. They were excluded because of their lack of skills and during the – sometimes extended – period of exclusion, they added a number of other deprivations. They have lost their self-confidence, family problems have arisen, often resulting in psychological problems. Strategies that were developed for coping were perhaps very effective for non-labour market issues, but constitute a problem for getting a job. Thus, diverse inputs are necessary to redevelop their employability and reintegrate them into the labour market, such as work ethic and work attitudes, vocational training, on-the-job training, work experience. A crucial question concerning coordination, therefore, is whether these different activation measures can be integrated into a coherent pathway or trajectory for the participants. Are the different measures meant for promoting re-entry to the labour market sufficiently complementary in time and content? Are perverse effects identified and taken into account? Important perverse effects are the 'unemployment trap' and the lesser-known but evenly important 'training trap'. A bad trajectory from labour market exclusion to labour market inclusion gives participants the impression that they are turning around in circles or 'invites' them to step out of the process and return to their former state.

An important problem for many participants in vocational training is the lack of perspective: training or some work experience is offered for a certain period (a number of weeks, months, and sometimes one or two years). During this programme, or at its end, a number of participants find their way (with or without guidance) towards the labour market. Another group of participants, however, is not able to bridge this gap or is unable to remain in the labour market. Their only perspective seems to offer a return to unemployment schemes or means-tested benefits.

2.3 Coordination or perverse effects (unemployment and training traps)

Coordination between the different benefit schemes and employment and training programmes is crucial to avoid or reduce unem-

ployment and training traps. These traps should not be restricted to their direct financial impact; they also include the indirect financial consequences of taking up a job and the social and socio-psychological facets of this change in status (see above). We are referring to the status of the job offered, the work satisfaction, the trade-off between care for children or parents and the income and status that accompany a job. These non-financial dimensions do not always aggravate the gap, they sometimes compensate for an insufficient income gain or even for an income loss.

2.4 Coordination with other services

Employment services traditionally care for the unemployed, social services for people on means-tested benefits. The reason for this distinction is that people on means-tested benefits usually are not considered to be fit for the labour market. Moreover, employment services often are linked – directly or indirectly – to a logic of contributions, whereas other social services are financed from general revenues (taxes).

Recently, social services have become increasingly involved in employment programmes. Coordination between these two government services is crucial. Furthermore training and employment programmes are often realised in cooperation with NGOs. In this case coordination becomes even more important.

2.5 Coordination at the local level

The local level often is described as the only one at which coordination is realised in a more substantial way rather than just formally. The reason is that the local level is the meeting point for concrete actions by different actors (clients and providers) and programmes; it is the level that relates directly to the level of practices. This means that the results of efforts to coordinate immediately become visible.

In many European countries this level has become more important in the fight against poverty and also in the development of local employment policies. Another aspect is that the NGOs have become more prominent because of recent welfare state developments. These provided them with the means to keep, and to increase their hold on, numerous aspects of the citizen's life. Government subsidies and private initiative go side by side in a number of fields. This means that a relatively autonomous field of 'training and employment programmes' has developed from private initiative but it survives thanks to support from public authorities. Private initiative and public subsidy often form a particular relationship. Formal policy objectives are often adapted under practical pressure and power relationships. Recently, many initiatives, agencies, and projects have developed outside the traditional structures or are only loosely related to them.

This often creates coordination problems on two different levels: between the policies of the central or regional government and the local authorities, and between local authorities and other local actors (NGOs). To start with the latter, the training initiatives we are discussing here were often initiated by small NGOs. Once they became successful – partly due to the structural character of high unemployment, partly to the innovative ways that training was organised and inserted into local social and economic networks – local authorities tried to recover these initiatives. They have a number of levers to assist this aim, such as control over the input of clients (unemployed, social assistance beneficiaries).

Public authorities at higher institutional levels want to maximise the input of funds, at the same time exercising a degree of control over local training initiatives. They promote new institutional arrangements and partnerships. One strategy is the promotion of institutional coordination. Other strategies include the redefining of the institutional and legal framework, the introduction of new incentives (such as output ratios) or the creation of new institutions that act as 'gatekeepers' in the local network. Special funds intended to combat poverty and social exclusion at the local level – such as the 'social impulse fund' in Flanders or the 'big cities' programme in the Netherlands – can bring about a new relationship between the central and local levels. At the

national and regional levels, new forms of co-ordination has been established. Initiatives of this type imply some kind of contract between the different levels. The existing legal and institutional framework, the hierarchical and bureaucratic structures of the public sector and rooted traditions, however, can create barriers to institutional cooperation.

In order to achieve good collaboration, certain conditions need to be fulfilled. The different measures offered or proposed, the obligations they imply, and their interrelationships should be clearly defined. From the point of view of the clients, it should be known if these measures are coherent, and that the different actors and/or organisations involved are not using opposing logic.

Several aspects are relevant to evaluation of training measures from this point of view. We mention:

a) the financial consequences of participation (or non-participation) for the beneficiary, including access to or loss of secondary rights;

b) prospects or perspectives for the future after participation; access to other programmes, measures or jobs, including the degree of personal choice in participation;

c) the impact on forms of 'social inclusion', including the reduction of psychological consequences of isolation, the development or strengthening of social networks, the adaptation of the (working) environment to the specific problems and characteristics of the target groups.

Coordination then should be seen as a condition for successful initiatives linking vocational training to employment, and from the point of view of the beneficiary or participant.

This includes:

a) coordination at the policy level;

b) and coordination at the service level;

c) in order to guarantee to the participants;

d) a coherent supply of vocational training initiatives;

e) which improves their situation (financial, social, personal, employability);

f) and provides a real prospect of integration;

g) in collaboration with all other relevant actors and institutions.

In other words, neither the existence of different coordination initiatives, nor the question of the identity of the service-provider, is in itself relevant; the results are, certainly from the point of view of the beneficiary. Only if the result is a coherent and well coordinated set of measures for the clients does the organisational setting offer an example of good practice. If the result is not coherent from the point of view of the participant, whether or not coordination initiatives have been taken, the measures will be considered as examples of bad (or insufficient) practice.

A last but important point is the question of whether coordination was a policy objective in setting up the programme or organisation, or whether local or other actors took on that responsibility on their own, in order to meet an existing need. We are interested to know if, in the programme or the organisation, someone is made responsible for the coordination aspects and why (not).

3. Exclusion from training programmes[4]

Participation and non-participation in training schemes is influenced by the same set of variables that, in the same way, determine exclusion from the labour market in general; gender, educational level, age, ethnicity, health situation. The following groups are underrepresented in training programmes; women, the lower educated, the older unemployed, the migrants, and the disabled. In short, certain groups of unemployed to be more excluded than others.

[4] This chapter will mainly be based on Darmon and Frade, 1998, pp.69 en; Nicaise et al., 1995, pp. 146.

Exclusion from training offers for target groups and its causes can be studied from different perspectives: an institutional, an economic, a psychological, a socio-cultural and a policy perspective (see Nicaise and Bollens, 1998: 121-153). The institutional point of view explains how people are excluded by not complying with administrative selection criteria; being officially registered as unemployed, the minimum duration of unemployment and additional criteria. The need for economic efficiency obviously constitutes the most important single factor of exclusion from training programmes. Stricter funding frameworks seem to result in processes of creaming-off the target group. From a psychological point of view it is the non-correspondence of training provisions to the needs and motivations of the unemployed that mainly cause exclusion. These psychological factors – needs and motivations – will be illustrated by different typologies of the unemployed with regard to their motivational level (see paragraph 3.4).

The cultural factor has been somewhat underestimated in these processes of exclusion and inclusion with respect to (selection for) training offers. Indeed, the process (sequence) of 'input-throughput-output' of target groups in training initiatives carries an important but underestimated component of cultural confrontation. This can be subsumed under the question: how do training initiatives succeed in overcoming the confrontation between the target group's 'culture' and that of the dominant labour market (we are not referring to 'social economy' initiatives'), if, indeed, they aim to bridge that gap. In this part, exclusion through cultural clashes between the dominant culture of the training staff and the subculture of the unemployed, will be discussed.

In the last paragraph the effects of general (labour market) policy with respect to exclusion from training programmes will be discussed. From this policy point of view, attention will be paid to the recent trends in policy. Among them are budgetary constraints, activation in labour market policy, decentralisation, the emphasis put on a preventive policy by the European countries and the 'hot topic' of the unemployment trap.

3.1 Exclusion through selection procedures (institutional)

3.1.1 Who is entitled to participate? Administrative criteria

Eligibility for training programmes not only depends on a person's position in the labour market but also on more general characteristics, as is shown by training for immigrants, drug addicts, disabled people, social welfare recipients, ethnic minorities, or gypsies. With respect to labour market position, three main categories can be identified: persons employed in the regular labour market, persons employed in the black labour market and the unemployed. There are, however, important subdivisions within each category. A first type within the first category is the employed who work full-time in the formal or regular labour market, which is supposed to be the ideal labour market situation. In a lesser position within this category of the regularly employed are those who work part-time. Those who are engaged in temporary employment, seasonal employment, homework, or other kinds of atypical work constitute the third category of the employed in the formal labour market. These forms of atypical work are not necessarily informal jobs or illegal/black market activities. Jobs within this informal or 'black' labour market are not regulated or protected by work legislation or other forms of social security and suffer from poor working conditions. On the other hand there are the unemployed, with one group that are registered as such and another who are not. The registered unemployed, in turn, can be entitled to a benefit or not. Schematically the following labour market positions can be discerned:

- full-time employed in the formal labour market;
- half-time employed in the formal labour market;
- employed in the informal labour market;
- registered unemployed entitled to a benefit;
- registered unemployed not entitled to a benefit;
- unregistered unemployed.

3.1.2 Officially registered unemployed

In most European countries only one of these six categories is able to participate in a training programme: the registered unemployed entitled to a benefit.[5] Although there seems to be a recent trend to open up training initiatives for social assistance beneficiaries in some countries, most of the training programmes focus on the officially registered unemployed only. This is a consequence of the way in which labour market programmes are often closely linked to the social benefit system. Only when an individual is allowed to claim an unemployment benefit can she or he gain access to training programmes with the aim of reintegrating them into the labour market. As a consequence the most vulnerable groups – those employed in the informal labour market, the registered unemployed not entitled to benefit, and the unregistered unemployed – are excluded form the programmes.

In addition, this group of unregistered unemployed seems to grow every year, causing most European countries feel the need to brighten up their unemployment statistics regularly. This is less the case for countries that have a limited duration for entitlement to unemployment benefits, because most individuals are no longer registered as unemployed after the termination of their period of entitlement. In other countries, the official unemployment count has been subject to all manner of artificial intervention in order to avoid further inflation of the unemployment rate. This means that a number of people who would, under other definitions, belong to the category of registered unemployed receiving benefit are referred to other categories that are ineligible for programmes designed to combat exclusion from employment. Single parents in the UK, the 'disabled' in the Netherlands and the older unemployed are examples of groups that are considered as being out of the labour market (Nicaise et al., 1995). Their total number is regarded as 'global underemployment', which can be estimated in Belgium, for example, at about double the number of the officially registered unemployed.

In addition to this, vulnerable people can also be found in the category of those already engaged in paid labour (Beweging ATD-Vierde Wereld, Lutte Solidarité Travail, 1998). The intensification of international competition has led to a growing need for labour market flexibility. Flexibility of the organisation of production seems necessary in the face of technological change. Flexibility of workers is expressed in terms of multi-skilling or mobility from task to task; flexibility of jobs, in terms of ease of hiring and firing or of changing working hours and the upward and downward flexibility of wages (Delsen, 1995). This flexibilisation trend results in an increase of atypical employment relationships. These differ from the traditional model of employment relationship, which was characterised by the fact that the worker had only one employer, worked full time on the employer's premises and was expected to continue doing so indefinitely. Part-time work, labour-on-call contracts, fixed-term contracts, seasonal work, agency work, home-based work, telework, freelancers, self-employment and informal work all are forms of employment that deviate from full time open-ended wage employment. Many of those who engage in these forms of flexible labour do not have a secure status within the work force but occupy only a marginal position: they are lowly paid and do not enjoy legal rights or social status arising from their employment (Alcock, 1997: 259). These individuals are unable to take advantage of most labour market programmes because they are considered as 'employed', although the employment is inadequate because it is marginal. It can be expected that this group will keep on expanding in the near future because of the growing need for flexibility.

[5] For those working in the formal labour market (other types of) training programmes are also accessible but they are less relevant with respect to the theme of social exclusion and therefore they will not be discussed in this contribution. This contribution will focus on those training programmes that strive for full-time employment in the formal labour market for their trainees, a position which is already being achieved by the category of full time working people in the formal labour market.

1227

3.1.3 Minimum duration of unemployment

Except for being officially registered as unemployed, a candidate has to comply with a number of other administrative criteria before he or she is able to participate in a programme. In particular, all those who are funded by public authorities (local, regional, national or European) have to comply with a minimum period of unemployment. Two opposite goals are at stake here. On the one hand, the longer the required minimum duration of unemployment, the lower the threshold for weaker groups since they do not have to compete with better trained groups. If the minimum duration of unemployment is put at one year, it is very likely that a training provider will prefer someone with the minimum period of unemployment to someone who has been unemployed for over two years. As a consequence the (unequal) competition for those unemployed for two years is reduced when the minimum period of unemployment is fixed at two years. So, the longer the minimum period of unemployment, the less those with the longest period of unemployment (the most vulnerable) are excluded. On the other hand, these face the risk of being labelled since they become more visible through their participation in specific programmes.

The answer to this dilemma seems to be to offer training for all after a short period of unemployment, as for example proposed by the Commission. Early intervention could prevent the occurrence or increase of a number of problems, such as loss of work experience, interiorisation of a negative self-image, reduction of network, and loss of capacity. Problems here are the dead-weight effects, since the probability for a short-term unemployed to become a long-term unemployed cannot be predicted, so that limited resources could have been spent on persons who would anyhow have reintegrated the labour market before the end of the training programme.

If access to training programmes is linked to the time a person has been registered as a beneficiary (to unemployment benefits), other problems arise. If the period referred to is a period of uninterrupted unemployment, then each interruption starts a new period of unemployment. A person with short spells of employment between longer and frequent periods of unemployment will never reach the threshold. He is, in a way, handicapped by his eagerness to find a job and by his success in doing so. This concept of taking into account not only the last period of unemployment but the '(un)employment career' over a longer period is very important. Empirical data do exist (in longitudinal surveys such as the ECHP[6] but have not yet been properly analysed. This becomes all the more problematic with respect to marginal workers who perform temporary or seasonal work.

In short, the mechanisms and criteria of labour market training programmes are related to the very foundations of our social protection systems: the meritocratic rules of access to continental social security are implicitly transposed into the reintegration programme. These criteria are tailored to the needs of the median (unemployed) worker: the full time, registered, healthy, insured unemployed (thus, the previously full-time, stable, healthy worker) (Nicaise et al., 1995).

3.1.4 Different selection criteria acting as a filter

Despite the maintenance of large public or quasi-public training institutions for the unemployed, training activities are increasingly provided by voluntary, private and non-profit (or 'social profit') organisations. They are funded by a mixture of public authorities; local, regional, national or European (see paragraph 3.2), which all put forward their own selection criteria. These criteria have to be met by the organisation in order to receive the payments of a given funding body. It is, however, often the case that the selection criteria of the different funding bodies are not concurrent or are even in opposition to each other. In this way, a double/triple/quadruple filter is being created, depending on the number of sets of criteria put forward by the different funding authorities. As a conse-

[6] European Community Household Panel.

123

quence, many people do not make it through the selection and are being excluded.

The manager of a Flemish training provider organisation, studied within the CASEL project (Darmon, Frade et al., 1998) describes this problem very clearly:

'(I: Are there different criteria imposed by different organisations?) R: These criteria vary according to the organisation that imposes them. But in the case of input criteria they are very different. Every organisation sets up its own requirements and you have to comply with all of them. As a consequence you have to create a lot of filters with respect to the participants. This means that you sometimes have to reject people whose ideas may fit perfectly within the organisation, but whose duration of unemployment is three days too short or too long or because they don't fit in the right pigeon-hole. So, if you depend on three different financing institutions then it is as if you put three different sieves above each other and in the end nobody gets through them anymore.'

Selection criteria, imposed by who pays for the training – be it local, regional, national or European authorities – can be regarded as one (institutional) explanation for exclusion from training programmes.

3.2 Exclusion through the need for (economic) efficiency

Because of the general decrease in the funding available from public sources and the tightening up of the access to it, training providers are forced to organise training programmes in a cost-efficient way. Employment services in European countries are increasingly aimed at maximising the 'penetration rate' of the unemployed into labour market training programmes. The training programmes' funding requirements and monitoring procedures are more and more based on targets, output-driven indicators of performance, stringent conditions of payment and other controlling devices. The evidence gathered as regards (un)employment and training policies in Europe, clearly shows that the greater the emphasis public employment officers place on the efficiency of the schemes they run, the more the people targeted – especially the most vulnerable – tend to be excluded from the schemes.

Public versus private training schemes

With respect to constraints coming from the funding structure, a distinction has to be made between public (governmental) institutions on the one hand and private (voluntary, local, non-profit, social profit) organisations on the other hand. The first – also chronologically – type of training programmes, provided by the public institutions, suited national and public policy to combat unemployment. They were aimed at teaching the job seeker skills and qualifications required by the labour market. The main objective was to combat unemployment as efficiently as possible by meeting an explicit demand for workers in a specific sector. Public organisations were getting paid by public authorities, who controlled and managed the budgetary means and financial resources to achieve this. As a result of this labour market orientation, the most vulnerable were often excluded.

Private, voluntary organisations were consequently created to compensate for the selection procedures applied in the public sector, by focusing on the most disadvantaged. Unlike public training projects, financial support from public authorities for private organisations is given in the form of a grant and comes from different administrations (local, regional, national, European) sometimes supplemented by alternative resources. Instead of a labour market orientation, the private organisations showed a job seeker orientation

In recent times, two important developments occurred. First of all there has been a shift from public to private or voluntary status (Darmon, Frade et al., 1998). Organisations have recently been created as voluntary or private bodies, whereas those with a longer existence sometimes have lost their status as public or 'quasi-public' institutions. Despite the maintenance of large public or quasi-public training institutions for the unemployed, training activities are increasingly provided by voluntary, private and non-profit (or 'so-

cial profit) organisations. Developments in this private sector have been enormous in recent years and seriously undermined the previous monopoly position of the public-training providers. Secondly, those organisations which previously had a remit towards the most vulnerable – private organisations – have increasingly tended to direct themselves towards the better off, as a result of the increasing orientation of funding requirements towards output/performance criteria. The harsher the funding requirements, the more the most vulnerable are excluded from training programmes.

3.3 Funding requirements and the need for efficiency

In assessing the harshness of the funding framework (and thus the possibility that exclusion occurs in a given training programme) a number of crucial factors can be discerned. The extent to which these factors are present in a given funding structure will determine the harshness, and thus the effects on training provider organisations, with respect to exclusion from training programmes. In the following paragraphs, we focus on the development of an analytical framework that needs to be applied to a complete and comparable data set. The impression indeed arises from reading case studies that the situation differs internally in each country, according to the type of initiative, and that these differences are sometimes more relevant than the ones between countries.

3.3.1 Targets and creaming off

The most important factor in this respect is whether or not the funding is target-based. In target based training programmes, subsidies are directly linked to the number of trainees that find a job (and/or the number of people that engage in further education) after finishing a training programme. The organisations have to show results before they are paid. As a logic result of this criterion, training provider organisations do not have the urge to pick unemployed people who are the most disadvantaged or who have been out of work for the longest period of time. Instead, they will select those candidates that have the greatest chance of achieving the targets put forward by the funding bodies. The more the emphasis is placed on reaching targets, and the higher the targets, the tighter the funding framework. Compulsion from funding bodies is less strong, on the other hand, when a training provider organisation is subsidised on anther basis, for example on the basis of past results, on the basis of the number of trainees participating in the training, or of the kind of training provided. This variation should first be analysed at the national level.

If the short-term return-to-work rate is used as a funding criterion, training providers will almost inevitably resort to a selection procedure oriented to the labour market, that is, focused on employability, on how job-ready the unemployed are. By so doing, providers expect to increase their success figures, above all the percentage of jobs obtained by the unemployed, which is the key for them to survive in a training market shaped by the funding frameworks. These strong selection procedures and a creaming off the target group to restrain only the most employable, can be seen as a natural reaction to the need for efficiency, enforced by the funding institutions. Creaming off can take extreme forms, such as subjecting potential trainees to medical, psychological and technical tests and by using assessment scales, whereby the way of selecting only the best people is further being improved.

The problem of rigid targets can be remedied through the use of differential targets. This means that when placement results are used to assess the effectiveness of an employment initiative, this has to be done on not in absolute but in relative terms. The number of people who have benefited from the programme should therefore be put in relation to those who did not benefit but who have the same characteristics as those who have.

3.3.2 Tendering and competition in the training market

Another factor that has an impact on the tightness of funding mechanisms is whether or not the funding is based on tendering and contracts. The establishment of new forms of pub-

1230

lic expenditure, based on cost-efficiency, seems to prefer competitive tendering as a way of allocating public funds. On the other hand, the funding framework is less controlling when payments are made on the basis of an agreement between the training provider organisation and the funding institution. One-to-one agreements between public or private funding bodies (such as sectoral funds in Belgium) and training providing organisations also remain an important basis for funding. However, there seems to be a general trend towards public tendering processes which means that the training providing organisations are increasingly competing for public funds.

Whether funding is directly linked to the achievement of targets or not, all organisations, because they have to compete in the training market, are forced into marketing through placement rates. Indeed, even though targets may not be put forward by the financing bodies, private training provider organisations will try to increase the percentage of trainees that find a job after finishing the scheme. The trend away from public providers and towards the generalisation of public tendering processes inevitably increases the competition between training organisations to obtain 'scarce' public money. When subsidising bodies have to choose which training project to finance, this percentage is regarded as one of the most important – if not the most essential – indicator. To use this short-term return to work rate as a success criterion will lead training organisations and public services responsible for intake to use strong selection processes and creaming-off practices (Nicaise et al., 1995). Because of this competition for public funds among training providers, a training market has been created. This has resulted in the introduction of the need for efficiency and the assertion of a 'competitive advantage' in those organisations that were previously oriented towards the most disadvantaged. The involvement of the private sector in thsr search to secure funds has also resulted in increased competition and market strategies directed to employers. If the employers' view of the training organisation is positive the organisation can even take over the function of selecting and hiring possible employees.

3.3.3 Funding insecurity and short term solutions

Besides the impact of result-oriented funding, the period for which subsidies are given and the way in which subsidies are paid are important variables. In general, support from government is given in the form of a grant to be negotiated and renewed each year. Insecure and irregular funding, resulting from precarious contracts with public authorities, seems as problematic as the lack of sufficient funding for training organisations. This short-term funding very much reduces an organisation's capacity to work on the basis of a long-term plan. It also hampers its ability to react quickly to a changing labour market situation, be it on the part of the supply side (the job seekers) or on the part of the demand side (the employers). If training organisations are not allowed to build up reserves, they are totally dependent on what they receive from the funding bodies. As a result, delays with money transfers to local projects can have dramatic consequences for the organisation.

Financial insecurity linked to short-term subsidies also renders it very difficult for the organisation to find highly qualified staff. Contracts offered to the staff are only for short periods of time and their salary is much less than they can earn in other sectors of the labour market. The quality and qualifications of the staff, in turn, influence training programme results. Underpaid staff, or those with a precarious status, do not ensure professionalism and continuity. In addition, staff have to spend a lot of time and energy meeting all of the necessary requirements of funding bodies, looking for supplementary sources of funding and trying to gain control over their organisation's expenditure.

Short-term based funding has implications not only for the staff but also for the trainees. Funding only covers the training itself and is often inadequate to finance additional services that can be necessary to lead the trainee to the labour market. Because of the lack of money, organisations are sometimes unable to guide the unemployed socially or to develop and apply a trajectory. Follow-up care also has to be dropped in this case. If this results in

continued unemployment after successful completion of the scheme, the trainee is sometimes worse off than before the training. Consequently, for the unemployed, too, training can be a short-term solution.

3.3.4 Possibility of selection and 'double bind tension'

The possibility of selection implies room for manoeuvre for the training provider and thus compensates for the tensions arising from a target-based funding framework. If this possibility does not exist, providers are expected to take on any person referred to them. When this lack of selection possibility is combined with the requirement to achieve certain targets, it can lead to a 'double bind tension'. Indeed, training providers in such funding structures are bound in two ways: on the one hand they have to accept all those referred to them – including the least employable – and on the other hand they have to meet certain placement results. As a consequence organisations sometimes face a dilemma: either losing the funding (by not reaching the targets) and thus seriously putting at risk the survival of the organisation or reaching the targets and thus putting the unemployed at risk. The decision is often made at the expense of the unemployed, by prioritising the achievement of placement results. The problem with 'double bind tension' is not so much the creaming-off effect excluding the most vulnerable, as is the case when there is a selection possibility. It is the quality of jobs the trainees take up after finishing their training programme. A case study of a London training provider organisation within the framework of the CASEL study is a clear example of this kind of tension faced by the provider. Pushed by tight funding conditions they were paying trainees between GBP 100 and GBP 180 if they accepted a job, no matter how precarious this job might have been (Darmon and Frade, 1998).

In the end, it is important to identify the degree and kind of the 'double bind' character of funding frameworks. Is there a correlation between the type of selection, the type of training chosen and the forms and degree of social exclusion/inclusion? Indeed, the fact that every unemployed person has to be accepted can be a positive feature, but this is not the case at all when it is combined with rigid targets.

3.3.5 Range and kind of activities

In situations where there is a lack of funds and training initiatives are populated by volunteers, there is much more room for engaging in specific societal and political projects. Once the main yardstick in assessing the success of a training scheme is the rate of job placement, the training landscape changes drastically. Targets, combined with competition for funds in a very competitive market, encourages suspension of certain activities simply because the expected placement results cannot be met, even though these activities might have been crucial for the reintegration of certain groups of unemployed. Contract renewal is increasingly based on the previous years' results and projects with 'easier' targets will be preferred. As a result, training projects are accepted if they fit with the organisation's survival needs rather than if they are the most promising answer to the unemployed's training needs.

Another result of this drive for efficiency is called, in managerial terms, product differentiation. This refers to a number of activities provided by the training organisation that are sufficiently differentiated. The trend is definitely towards larger organisations that cover a wide range of activities. They usually organise several or even all of following activities; basic education, training for job search, teaching basic work habits, vocational training leading to certified qualifications, advice and guidance, 'social employment' (protected employment, either temporary or permanent) and even constancy. The presence of an array of opportunities can mean that the selection threshold is kept lower, because alternatives are present within the organisation. Different training programmes are offered according to the degree of employability, differing in their effectiveness as to job placement. The distance between the unemployed and the labour market (employability) and between the training and the labour market seem to go together. In this way, the most

1232

employable candidates can be directed to the programmes with the strictest targets, most directly linked to the labour market. Less employable candidates can be led to less directly work-oriented programmes (or even 'social employment') where target-based pressure is not that high.

3.3.6 Managerialism

Under the pressure of more and more stringent funding regimes, there has been a shift towards managerialism. Managerialism refers to the adaptation of training activities to stringent output-related monitoring, targets and indicators (such as 'placement rates'). It is concerned with compliance with external procedures imposed by funding frameworks, with promoting the organisation in the training market and competing for funds. In a managerialist mode of organisation, the role of training managers is particularly difficult since they are responsible for making their project sustainable and they can be held responsible for that. The renewal of staff employment contracts is usually directly linked to the renewal of the contract by the funding bodies, and thus is very precarious.

The problem, then, becomes to combine the goal of 'efficiency' with more social considerations. The economic goal and the social goal are often regarded as opposites: the more a certain initiative attains its first objective of economic viability, the less it achieves the second one of reintegrating the unemployed, especially the most needy, into the labour market. The problem of unemployment is defined in managerial terms. It is about matching employers and potential employees, for whom the path to employment is strewn with all kinds of barriers. The unemployed and companies are considered as two 'customers' between whom no tension should exist since the goal of the training initiative it to match the needs of the one partner with those of the other. In that way, those who participate in training are seen as 'products' that can be delivered at the request of the employers. Are the unemployed to become – preferably good – 'products' that have to be delivered to the companies where jobs are available? If, however, these training organisations have to satisfy firstly their efficiency criteria, is not the social concern then threatened and consequently the position (selection) of marginalised groups/persons?

3.4 Motivation and (non-) participation (psychological)

In the selection of possible candidates it is not only the administrative criteria imposed by public authorities that play an important role. Most of the organisations have freedom to apply their own selection criteria. 'Motivation', in the meaning of the will to improve one's situation, is the criterion that seems to be paramount importance for the training provider in selecting trainees. It is also a subject of discussion, for example, when complaints are made by training organisations for not being able to fill the vacancies in their training programmes. Are the unemployed not motivated anymore and do they not want to participate? How can non-participation in training be explained? And how can participation be fostered?

3.4.1 Typologies of motivation

With respect to the motivation levels of the unemployed, different attempts have been made to distinguish different groups of unemployed and thus to develop a typology of motivations. An attempt to develop a typology of the unemployed has been carried out by De Witte (1992). The author distinguishes five types of unemployed. The first group is called the 'moderate optimists' because their concern for work is only moderate, although most of them would like to work in the near future. Their expectations of finding a job are favourable and they do not have problems with respect to their situation of unemployment. They show a positive attitude towards labour market programmes, though they seem only willing to participate when it fits within their plan for the future. The 'desperate seekers', the second type of unemployed, are very much concerned with work, actively look for a job and experience unemployment as very negative. They feel frustrated in their search for a job and are clearly aware of the barriers that hamper their entrance into the labour market. Because of this, willingness

to make sacrifices to find a job and their need for guiding and counselling are considerable. The 'discouraged' also have a positive attitude towards work, although they only search for it in a moderate way. Their experience of unemployment, however, is less problematic than in the group of the desperate seekers. The most obvious characteristic of this group is their pessimistic view of the future. They also ask the institutions to guide them in their search for a job in the area of work mediation because they have given up hope of realising this on their own. The attitude of the 'adjusted' towards work is positive but they have given up searching for it. They differ from the discouraged with respect to the experience of unemployment because they seem to be adjusted to the situation of being jobless. The combination of this unproblematic unemployment experience with a negative view of their chances in the labour market explains their lack of interest in training programmes. The interest in work of the last group, that of the 'withdrawers', is quasi non-existent, just like their search behaviour. In addition they experience unemployment as unproblematic and are the least willing to make sacrifices to find a job, nor do they ask social or employment services for help. On the contrary, they would rather 'get them off their back'.

Another study on AIF (*Actions d'insertion et de formation*) in France reveals four types of trainees with different motivations towards training (Verdié and Sibille, 1992). The first group does not regard training as an investment but as a way of spending their time. They are well aware of their unfavourable position in the labour market (because of a handicap, health problems, or age). Their attitude towards the labour market is fatalistic: they don't see any chance of finding a job at all. The second group are those who would like to work immediately but engage in training to improve their employment chances. The third group accept training as a last resort. They have been unemployed for a long time and, because of repeated failure, do not expect to find a job. Their attitude to training and the labour market can be regarded as very negative. The last group sees training as a way of coping with uncertainty related to unemployment.

In a study done by Kroft et al. (1989) a typology was drawn up of six different 'groups of unemployed': conformists, ritualists, withdrawers,) enterprising, calculating, and autonomous. They differ in the way they handle the three main problems associated with unemployment: work (and the search for it); time (and how to pass it); and consumption. The different types of unemployed place a different emphasis on these three values and experience them differently. With regard to the attitude towards 'work' and 'consumption' and their view of the labour market and society as a whole, the authors have derived the following typology:

First of all, the 'conformists' show a positive attitude towards work and consumption and try to achieve both but only by accepted legal means. The 'ritualists' seem to be indifferent to work and consumption because they have given up hope of ever achieving it. If they want to improve their work situation of and consumption, they use only accepted means. The 'withdrawers' attitude towards work is one of withdrawal (they see no further chance for them in the labour market) and their attitude towards consumption is one of resignation. If they want to improve their situation, only accepted means are used. The attitude of the 'enterprising' towards work is instrumental. Because they show a positive attitude to consumption, they regard work as an instrument to achieve a higher level of consumption. To realise this, informal and/or illegal means are also used. The attitude of the 'calculating' towards work is conditional, which means that it is considered positive on the condition that it increases the level of consumption. For them, consumption is more important than work and all means are used to achieve this. Rejection of both work and consumption is the attitude of the last type of unemployed, the 'autonomous'. Their rebellious – even revolutionary – attitude of rejection of both values, imply no use of informal means.

The type of unemployed an individual belongs to strongly influences the willingness to make sacrifices in order to find a job. This can be the case with regard to the income level, the contents of the job, the duration of the contract (limited or unlimited duration), dura-

tion of employment (full time, part time), the necessity to move or to commute. Because of the great value attached to work by the conformists and the ritualists they are willing to make many sacrifices. They are willing, for example, to accept hard and rather dangerous forms of jobs, they are ready to move somewhere else or to travel long hours in order to find a job. Even their demands concerning income are quite small. Compared to the ritualists and conformists, the willingness to make sacrifices is a lot smaller in the individualist unemployed. The exercise of a job is conditional and instrumental for the enterprising and the calculating: only when their high demands concerning contents and type of jobs and level of income are guaranteed are they are ready to take the job. Trainees also belonging to the fatalist category, place great demands on a job, but for reasons other than the enterprising and the calculating. Their low willingness to make sacrifices can be explained by the existence of a defence mechanism. They make such high demands to defend themselves against the reproaches of their social environment for their continuing failure in the labour market. By placing relatively high requirements on work, they justify failures to the outside world in a dignified way. The autonomous, finally, are only prepared to make minor concessions, because they are not interested in any kind of job. These requirements are formulated in such a way that their current situation prevails over a formal work situation.

3.4.2 Motivation and (non) participation in training programmes

This perspective of the unemployed on work (work ethics, work attitudes) and their (un)willingness to make sacrifices to achieve this, has a direct impact on whether or not they participate in training and, equally, on the reasons they have for actually taking part. Trainees who belong to conformist, ritualistic, enterprising and calculating types are more likely to engage in training, whereas the withdrawers and the autonomous are less likely to participate (with the fatalists showing the lowest rate of willingness to participate). When they actually do take part, the motives are diverse. They can be pushed by their social environment to engage in training or they can see training as a means to earn money, as the only way to a job and thus as a means to access a higher consumption level. They can be obliged by social or employment services or they can see training as a means for self-development.

This can be considered important because the motivations and aspirations of the trainee will determine whether the training results in success or failure for the trainees. As a consequence, they have to be treated differently by the trainers and to be handled according to their background. For example, withdrawers have withdrawn themselves from the labour market because of the many rejections they experienced from employers. As a consequence, their self-esteem and self-confidence are very low. Therefore, it can be useful for them to participate in training to enhance their ability and their confidence. For the autonomous, on the other hand, it is important that trainers take into account their alternative labour ethics. Conformists, in turn, easily become withdrawers as the duration of their unemployment goes on: they experience continuing failure in the labour market, high social costs with regard to their search behaviour and their social bonds are gradually destroyed. They slowly arrive at a situation of resignation and dependence on social services. Individual guiding of the trainees into a regular job could be helpful in slowing down, halting or even reversing this process.

3.4.3 Correspondence of provisions and needs

Obviously, there seems to be a close relation between the type of unemployed and his or her needs and motivations. This relationship should be taken into account when offering particular services to the unemployed. Few long term unemployed or persons on minimum benefits require only vocational training; most of them also need work experience and even basic education. Consequently, training should be considered as a trajectory that, step-by-step matches the needs of the labour market with the needs of the job seekers. In short, a training programme not adjusted to the needs and motivations of the

1235

unemployed can explain a great deal of the non-participation in training programmes. When training courses are not tailored to the needs of the individual, the individual is not motivated to participate. Therefore it seems to be important to take into account – along with the needs of the demand side of labour (the employers) – the needs of the supply side of labour.

These typologies do not take into account a number of 'contextual' factors, such as the family context of the unemployed. It is clear that the motivation to participate in training or to search for a job also depends on whether a family member – spouse – is employed or not. If this variable is not taken into account, aspects of social exclusion may be biased.

3.5 Exclusion through cultural clashes (socio-cultural aspects)

A somewhat underestimated factor in these processes of exclusion and inclusion with respect to (selection for) training offers has been the socio-cultural aspect, though it can explain a great deal of the exclusionary practices in labour market programmes[7]. This socio-cultural perspective concentrates on training organisations as actors in an acculturation process. The interplay between the unemployed and the training providers and staff takes the form of an acculturation process, that is an interaction between a dominant culture and a subordinate one. This process can take different forms ranging from assimilation – which leaves no room for differentiation – through to inclusion – an incorporation which demands some form of adaptation but accepts the permanence of differentiation – and, in between those two extremes, different levels of inter-penetration. This is a relevant perspective, given that it has become quite clear that many initiatives have failed – as programmes and in assisting the target groups – not because of their educational, practical or organisational failures but because they did not take into account this 'hidden agenda'.

3.5.1 Socialisation and acculturation patterns

The specific question then becomes: does the organisation providing training choose for the target groups' 'culture', for the labour market's culture or does it successfully bridge the gap (if any) by integrating both cultures into a proper 'organisational culture'? And how do they handle the contradiction between the mainstream cultures' dominant value of work and the reality of lack of work? To find an answer to this question, nine training schemes were investigated and thus nine case studies were carried out in four countries within the CASEL-project. In the comparative interpretation of these nine case studies, diversity in the interaction between the most important actors – the staff and the trainees – could be observed: four different patterns of socialisation-acculturation occurred.

These four socialisation-acculturation patterns (SAP) are in turn specific and complex constellations of relational characteristics. These characteristics are the underlying ethos of the training provider organisation, the kind of training and the approach of the trainees, and the trainees' relationship to and reaction to those aspects.

The SAP of 'identification' (or extreme assimilation) overrides the difference represented by the individual trainees and ultimately seeks to transform their personalities into that of the 'ideal employee'. This type of SAP occurs in organisations which have a management ethos; this means that the dominant characteristics of these organisations are efficiency, management, and precarious working conditions for the staff. The motivational approach of the trainees, that accompanies identification, is underpinned by a sort of 'idealisation' of the labour market, as the unquestioned reference. In this kind of organisation the lack of jobs is totally denied. Consequently, the emphasis is put on behaviour and attitudes rather than skills and qualifications. The reaction of the trainees in the pattern of

[7] This paragraph will mainly be based on a research carried out by the CASEL-consortium (1998), of whom CASUM has been a member, about the socio-cultural aspects of labour market (re)integration.

1230

identification is one of polarisation in attitudes, which corresponds to the categorisation of the unemployed by the staff. One group of unemployed were very enthusiastic and identified themselves very strongly with the staff. The other group rather showed passive and sometimes even critical accommodation.

The pattern of assimilation seeks to fashion the trainees' attitudes and conduct according to a predefined model of attitudes and conduct required by the labour market (autonomy, motivation, and self-confidence). There is no recognition of differences between the trainers and the trainees, and no attempt to override it either. This type of socialisation-acculturation is also the result of a managerial ethos and a motivational approach and a strong polarisation between assimilating and passively accommodating trainees.

Inclusion, the third SAP, seeks to teach already employable trainees techniques and 'tricks' to facilitate access to the labour market, but allows for mutual differences. Crucial factors in this pattern are the 'elitist ethos', which promotes individual autonomy of the trainees. Because they have 'room for manoeuvre', these organisation show the urge to select only the most employable and thus are 'elitist' in a certain way. Their view of the labour market is more realistic: the lack of job is acknowledged but access to the labour market still seems possible for them because the most job-ready are selected. In this instrumental approach trainees do not have to identify with the rules, which consequently leaves room for mutual differentiation. The trainees actively adapt in order to learn to play the game, to learn the tricks.

In a pattern of adaptation-accommodation the aim is to make the best possible match between adaptation to the labour market and accommodation to the individual trainees. The training schemes where such a pattern was found are based on a 'service ethos'. This means that they have a special remit towards the most marginalised. In addition their aim is not mere labour market integration but integration in society as a whole: a global approach to the trainees. Training is, therefore only one of the possible means fo realising the social as well as the professional integration of the trainee. This SAP comprises an easy relationship between actively adapting and more passively accommodating trainees.

3.5.2 Implications of this approach towards the unemployed

The main causal factors for the occurrence of different types of socialisation-acculturation are undoubtedly those stemming from the policy and funding framework and its consequence of competition in the training market. The existence of this link between the different patterns and the policy and funding framework is very strongly suggested in the case studies. If the funding framework is considered according to its degree of harshness (see paragraph 3.2.2) it could be said that, the tighter the funding framework, the more likely that a pattern of identification or extreme assimilation occurs in a given training (provider organisation). Thus the funding framework explains variation between the ethos of the training organisation, the type of approach of the trainees, and the trainees' reaction, constituting the specific socialisation-acculturation pattern.

The most important implication of this sociocultural approach is that the three crucial elements, constituting a specific kind of pattern – the ethos of the training organisation, the approach of the trainees, and the trainees' reaction to both – are regarded as a relational property. They are not understood as much as an attribute of a particular actor, whether the training staff or the unemployed. In current policy, however, trainees' attitudes and reactions are often seen as a result of their specific characteristics: they are seen as lacking crucial work attitudes, for which they must be punished or of which they must be cured by different kinds of training programmes. Instead of underpinning this 'individual deficiency model', the attitudes of trainees should be treated as a relational factor. This means that they reflect the position of those actors in the mist of a network whose main domains are the policy framework and the market. It should be taken into account that the motivations and attitudes of the unemployed should not only be understood on a

1237

psychological/attributional basis but all the more on a relational/socio-cultural basis.

3.6 The social and policy context

From a policy perspective, different developments can be discerned that have an impact on training provisions and exclusion from it. In the first place, in a number of European member states national budgets are under great pressure, which indirectly affects social and employment policy. The trend of active labour market policies also has a direct impact on provision of training programmes. Perverse effects become all the more obvious when activation policies inhibit disciplinary characteristics, especially when the availability and quality of jobs, which training should lead to, is taken into account. The emphasis put on a preventive policy by European countries and the 'hot topic' of the unemployment trap, in addition, influences the occurrence of exclusionary practices.

3.6.1 Budgetary constraints

High unemployment is a burden on social security budgets. This became especially problematic in the 1990s, when most member states of the European Union were implementing strict budget controls with a view to attaining the so-called '3 per cent norm' as laid down in the Maastricht Treaty; this norm prescribes that a member state's budget deficit should not exceed 3 per cent of GDP if this state is to participate in the European single currency. Assigning an unemployment benefit to each and every unemployed person turned out to be very costly. Unemployment benefits – and thus passive labour market policies – are under ever-increasing pressure. Policy measures eagerly try to reduce the pool of unemployed in order to brighten up their unemployment statistics and to ensure the financial sustainability of the system of unemployment insurance. The development of active labour market policies should also be seen as potential saving of expenses in the unemployment insurance system. In consequence, the breaking up of a passive system goes hand-in-hand with the development of active policies, for they serve the same purpose of budgetary savings.

Cutting budgets also has had a direct impact on training policy in the sense that one tries to achieve the greatest results with the least possible means. This principle of efficiency, applied within the domain of training, resulted in a tightening of funding requirements and monitoring procedures. As mentioned in paragraph 3.2 these are increasingly based on targets, tendering, stringent conditions of payment, and other controlling devices, with all their consequences for the targeted unemployed.

The impact is different according to the specific funding mix in a particular country. State regulations and programmes, social-partner regulations, individual financial contributions, enterprise funding (joint or individual), tax incentives, and vouchers all play a part. Although 'comprehensive, systematic and longitudinal empirical data are in short supply', Kath (1999: 42) endeavours a 'tentative evaluation' on the basis of an analysis of the situation in Germany, the U.K., France, and Denmark. He asks the question whether the use of inappropriate instruments of funding is responsible or whether it is, as often claimed, an expression of conceptual and organisational weaknesses in the system of vocational training. His answer is negative 'since it reflects a much too narrow viewpoint, inadmissibly instrumentalising vocational education and training policies with their different funding regulations as deciding factors in solutions. Actually they can only help offset existing imbalances within the framework of a comprehensive labour market policy' (Kath, 1999: 42). This framework is perhaps provided by 'active labour market policies'?

3.6.2 Active labour market policies

Parallel with the pressure upon the passive system of benefits, the activation discourse has, in a relatively short space of time, become fashionable amongst all those involved with policies concerning benefit recipients and the unemployed. Public budgets spent on active labour market measures keep on growing year after year. There is a growing attention towards activation not only in the policy world but also in the academic world, as part of the debate on the future of the welfare state

1233

and the 'new social question'. More generally, one speaks of the activation of social security or of the welfare state: income support policy, welfare policy and unemployment policy. Usually, the term is narrowed down to the question of how the growing group of poorly qualified and/or long-term unemployed people and individuals who are totally dependent upon income support, can be re-integrated in society, through the (labour) market or otherwise. Thus, the problem is restricted to the structural gap between predominantly highly skilled insiders and a (growing) group of mostly unskilled outsiders.

Within the scope of the more narrow approach of this so-called 'new social question', policymakers and social scientists in various European counties have, in a relatively short period of time, adopted the notion of social activation into their own vocabulary. Today, they take activation measures or they underpin the activation discourse. Generally speaking, this concerns policies aimed at the speedy reintegration into society of people who are excluded from the labour market and are living off an allowance. This reintegration can and must, according to most programmes, happen exclusively via the labour market (Geldof, 1999).

3.6.3 Training as an active labour market policy

Activation in employment policy can take different forms, ranging from training and schooling to counselling, work experience and employment (in the normal labour market or in the alternative sector also called the 'social economy'). However, it always aims at increasing labour market participation by job seekers and thus stimulating labour supply. Instruments for active labour market policy have rapidly gained popularity in European countries, especially the instrument of training. Since it became clear that the poorly qualified were finding it increasingly difficult to cope in the labour market, more and more emphasis is placed on training. This was clearly shown at the Extraordinary European Council Meeting on Employment, held in Luxembourg on 20 and 21 November 1997. In the conclusions of the presidency, we read the following:

'Transition from passive measures to active measures.

Benefit and training systems (where that proves necessary) must be reviewed and adapted to ensure that they actively support employability and provide real incentives for the unemployed to seek and take up work or training opportunities. Each Member State will endeavour to increase significantly the number of persons benefiting from active measures to improve their employability. In order to increase the numbers of unemployed who are offered training or any similar measure, it will in particular fix a target, in the light of its starting situation, of gradually achieving the average of the three most successful Member States, and at least 20%.'

(Conclusions of the presidency, Luxembourg 20/21 November 1997, 53-54)

Putting forward this percentage, as a result of which most countries have to push up their efforts substantially, implies that the number of unemployed who will be able to participate will also increase considerably. This evolution exhibits positive features for the most disadvantaged because the chance of participation will increase, but a number of dangers are lurking with regard to compulsion in activation and the contradiction of activation with the lack of jobs.

3.6.4 Compulsory features in active labour market policies

The range of measures in activation policies is very broad, but it always concerns combinations of employment and benefits, even in the case of training. Workfare in the strict sense, where one is forced to work in order to maintain the benefit, is still, for the time being, rather exceptional in Europe (certainly compared to the American situation). However, workfare in the broader sense is increasingly common. In the broad sense it means that welfare recipients are expected to make efforts for re-employment and reintegration (Andries, 1997). European countries, however, are moving more and more in the direction of learnfare: the beneficiary can be obliged to follow training in order to receive benefits.

1233

The improvement of opportunity in the labour market (via training) can be accompanied by the threat of a sanction: diminishing or ending unemployment benefit. Thus, increasing pressure is exerted on the (long-term) unemployed and there has been a shift in the meaning of the concept: besides the emancipatory angle, it now also includes a disciplinary element.

Compulsion to participate in training schemes has created much controversy, however, because it can be used as a means of testing the willingness to work, and thus a means of suspension from benefits. The mandatory nature of recent programmes carries with it the danger of generating additional risks of exclusion for those who do not follow the rules of the game properly. In addition, studies have shown from the literature that mandatory schemes are often ineffective. The fact that the supply of clients is guaranteed for training providers and thus that there are less incentives to improve the quality of training, can be one explanation. Secondly, compulsion can lead to stigmatisation of the trainees in the eyes of the employers and thirdly, the mere fact of obligatory attendance can demotivate the trainees, especially when the programme is not suited to their needs. Consequently, an equilibrium should be established between the duties (to engage in training) and the rights (the freedom of choice) of the unemployed.

3.6.5 Activation and the availability and quality of jobs

The stimulation of labour supply by active measures, however, is very much in contrast with the actual lack of jobs and high unemployment rates. Indeed, unemployment is basically a situation of excess supply and/or depressed demand in labour markets. The low-skilled sector of – where the most of the trainees will end up – is already characterised by a situation of excess supply. So, on the one hand, training can be the answer to the new social question by bridging the gap between low-skilled and highly skilled workers but, on the other hand, this can only be done efficiently when jobs are actually available.

So, does the Centre for Social Policy at the University of Antwerp (UFSIA) believe that activation towards the labour market is the answer to the 'new social question'?

'This new social question requires a truly new approach. We must move towards a policy of activation; a policy that is targeted at all individuals with poor qualifications, including poorly qualified housewives, and not just those who are officially unemployed. A policy of activation is also necessary for reason that marginalisation of the poorly-qualified is not merely – not even primarily – a question of poverty. The aspect of poverty has, in fact, been adequately addressed. It is now primarily a matter of social integration and sociocultural cohesion. If a further economic and political polarisation is to be avoided and the ideal of the welfare state safeguarded, then a radical choice for *jobs* for the poorly qualified is indispensable' (Cantillon and Marx, 1995).

Cantillon and Marx's plea for activation indicates that there is an essential distinction to be made in activation policy. The word *jobs* in the final sentence of the quote is important: it signifies a much broader concept of activation than is evident in many current activation measures, which are almost exclusively aimed at the activation of benefit recipients. If one takes the option for jobs seriously, then this firstly implies an activation of the labour market rather than – or even contrary to – activation of benefit recipients.

Not taking into account the current situation of high unemployment rates eventually leads to a further marginalisation of the already disadvantaged, for the trainees may be forced to accept any jobs, no matter how precarious they may be in terms of working conditions and wages. The pressure to accept lower-standard jobs, manifested itself in a very extreme way in the London organisation already mentioned, where under the 'British job start schemes', the long-term unemployed were offered allowances should they accept a job within three months.

The quality of employment is not only brought into question in general job-search training, that does not train for a particular types of

1240

work. Questions can also be asked in the case of training programmes with a specific professional outcome: 'For what kind of jobs is the training a preparation? For a pool of unspecified (very) precarious jobs? Or for specific jobs?' In this wide field, a relatively recent trend exists towards training for 'new' occupations. One reason for this development is that changes in the structure of publicly accepted needs requires new services and therefore new jobs and qualifications to carry them out. These new jobs can result from the splitting up of the job description of an existing profession into a more qualified and a less qualified component, or from the combining of several such job parts. These are mostly 'intermediate' jobs, which require a combination of general and technical skills ('logistic assistant' in Flanders, *auxiliaires de vie* or 'mediators' between neighbours in peripheral estates in France). The question is whether this new labour market that is developing and that is accessible to people without necessarily high skills (women returnees, young people) will integrate the segment of the secondary labour market?

With regard to jobs in the so-called third labour market circuit, those created for the unemployed who are not considered able to move into a normal job ever again, the status of the jobs can be questioned too. These projects are very much dependent on subsidies because self-sufficiency is hard to achieve. Therefore, they are not always able to do any more than propose temporary, subsidised and informal work of a marginal type. In addition, the transition from this third labour market to the regular one seems almost impossible and no effort is made to try to realise this transition. Unless the status of the jobs provided in this segment of the labour market is changed into stable, normally-remunerated jobs fully covered by social security, (full-time) employment in the formal labour market must still be the aim for every individual unemployed.

3.6.6 Reasons for increasing popularity

Training has become a most important part of the 'activation' of employment policies and is therefore geared to reintegration into the labour market in the most cost-effective way. Budgets spent on active policies are growing rapidly, whereas those on passive policies are decreasing. This evolution is not very surprising given the current policy context of budget savings and the fact that this kind of policy is very visible. Policy makers can actually show that they are doing something about the problems, and even quantify their effort.

This approach is characterised by an individual deficiency model. According to this model unemployment – especially of certain disadvantaged groups – is the result of individual events or the lack of individual qualities, such as an appropriate attitude towards work and the working environment. There has thus been a shift in responsibility from the policymakers to the unemployed individual; The responsibility of the authorities lies only in the provision of training opportunities and the person who, despite those efforts, remains unemployed is suspected of not being willing to work.

3.6.7 European guideline for a preventive policy

The statement 'You can't bail out a leaking boat without plugging the hole' of Allan Larsson, Director-General of DG 'Social Affairs and Employment' of the European Commission clearly illustrates the European idea of a preventive policy. The idea is that the longer the duration of unemployment, the more difficult it will be for the unemployed to get out of it. Intervening at an earlier stage of unemployment should prevent this. The 'plugging of the hole' therefore should happen by means of offering every young person a new start before they reach their sixth month of unemployment and every unemployed adult before reaching twelve months of unemployment (guidelines 1 and 2). This policy trend, again, is contrary to a policy targeted to the (long-term) most disadvantaged unemployed or who show the highest risk profile: a curative policy.

The problem with a preventive policy, when it is translated into early intervention, is that chances are high that dead weight will occur. Dead weight relates to the fact that benefici-

1241

aries of a programme, who would have found a job without following the training too, fill the jobs. As a result of the much larger target group, in which the most employable are overrepresented, the threshold for the long-term unemployed will be much higher because they have to compete with more job-ready unemployed (see paragraph 3.1.1). The long-term unemployed will be neglected in a preventive policy. The group of unemployed will be filtered and those who remain in unemployment will be the hard core unemployed. Early intervention can only be justified when the unemployed are screened on risk characteristics: those characteristics that result in a higher chance of drifting into long-term unemployment. However, these risk categories are difficult to measure.

4. Conclusions

Both participation in the labour market and participation in training programmes are unevenly distributed among different population groups: women, elderly, disabled, lower educated and migrants are underrepresented. Gender, age, health situation, ethnicity and educational level are thus of crucial importance in explaining non-participation in the labour market and in training schemes. Accumulation of these factors increases the risk of becoming unemployed and decreases the chance of participating in training. In this way, a hard core of unemployed and untrained is been created.

The crucial factors that generate this unequal distribution are institutional, economic, psychological, and cultural. Persons who are most likely to be excluded from training programmes do not comply with the administrative criteria (from an institutional point of view). Moreover, they have fewer chances of finding a job after finishing the training and thus contribute to lower placement rates (from an economic point of view), they are less motivated (from a psychological point of view), and they identify less with the labour market (from a socio-cultural point of view). As a consequence the most vulnerable of the unemployed – who share these characteristics – are being excluded from training initiatives.

Therefore, continuing efforts should be made to re-integrate these 'hard core' unemployed and untrained. This is not an easy task, at least if we take the definition of 'social exclusion' seriously. Social exclusion, indeed, is not only about unequal access but mainly about 'fault lines' between these groups and the rest of the population, between their behavioural patterns and the dominant ones, between them and the institutional and cultural framework of society. Social exclusion often does not present itself in one domain. It is not about employment or training, but about employment and training. Moreover, both training and employment are often embedded in a larger network of exclusions that encompasses other fields of the individual and social life of the target groups of this contribution: housing, health, associational life. This reality implies that research, policies and social action have to take account of many initial factors in order to understand and remedy exclusion from training initiatives. Moreover, the opposite of social exclusion – the process of social inclusion – is not just 'the way back'. Additional obstacles can be expected, such as the restoration of the former roles or of the different forms of inclusion (cultural, normative, communicative and functional).

In spite of the strong interrelation between the implications for research, policy-making and social action, we intend to specify our conclusions and proposals according to these three dimensions.

4.1 Conclusions for further research

What is lacking, is a more profound understanding of the structures of daily life in the target groups. We are referring to their social networks, their interpretation of the direct and indirect societal environment, and their coping strategies. This kind of knowledge cannot be obtained through traditional surveys. A more qualitative approach is needed here, based on in-depth interviews and analysed with the help of specific methods (network analysis, grounded theory, structural analyses).

Another focal point for further analysis is the institutional framework of training. We refer

1242

to the different 'management styles' that are being used by training initiatives. Some of them are more appropriate to helping the target groups bridge the gap between their deprived situation and typical behavioural patterns, and the training initiatives and/or the labour market than others. An adapted version of the Bourdieu & Passeron concept of 'cultural deficit' could be productive in this context, referring to the difference between the culture of the training initiative and the trainers and that of the trainees.

4.2 Conclusions for policy makers

Of the many important points in this respect, we would like to stress the need for coordination of legislation, of initiatives. There is an urgent need for a governance approach to vocational training initiatives, integrating the different stages leading from social exclusion to social inclusion, the different levels of decision-making (from the European to the local level) and the multiple actors (public and private) engaged in this venture.

Integration into the labour market alone should not be the sole objective of VET. The ultimate goal is integration into society. We acknowledge the importance of work, of a job in this respect – Jahoda's 'latent deprivation model' has to be used as a frame of reference. There are, however, parallel routes in this respect and the organisation of a social economy sector is an important one. Social economy should no longer be seen as a temporary solution, to be developed in times of economic crisis and high unemployment. Its logic should no longer remain the 'lower productivity' of a growing part of the 'active population'. It should become, instead, the mix of the different goals discussed.

What about 'active policies' or 'activation', policy objectives that have become very fashionable today? The most important point in this debate concerns the interrelation between the client, the vocational training initiative and the labour market: the need to increase the emancipation dimension of vocational training and the potential for the trainee to have a job at the end of her/his trajectory. This implies not only adaptation at the actor dimension (training the trainers), but, even more so, adaptation in the cultural and institutional training framework and larger societal context.

4.3 Conclusions for people responsible for training organisations

What kind of vocational training model is to be developed, so that accessibility for risk groups and their successful participation increases? Méhaut presents us with one possible answer: the integrated training model. It refers to training that is more integrated into the working situation, through its relations with 'the organisation (and content) of work, job mobility and pay conditions' (Méhaut, 1999). The problem with this model is that it only refers to the relation with the (potential) work situation, whereas it has become clear that social inclusion of the target groups usually implies taking account of multiple exclusions. The *holistic* model of Ott provides us with an alternative. 'Holistic vocational training is not just oriented towards the acquisition of technical competences. It seeks to actively encourage the self-determination of individuals, their social co-responsibility and democratic co-determination of the worlds of life and work' (Ott, 1999). This model, however, is too much focused on the individual dimension; it does not sufficiently take account of the institutional, cultural and larger societal requirements that are needed to organise successful vocational training initiatives for our risk groups. The approach that is needed here has been discussed in terms of 'inclusiveness' 'governance' or 'mainstreaming'. At the level of specific organisations, this approach is to be translated into the development of coherent trajectories, that take account of the multiple and specific problems encountered by long-term unemployed and subsistence income beneficiaries. It also means that these trajectories should not only take account of personal strengths and weaknesses of their clientele. The behaviour of the actors that organise these trajectories (managers, trainers) and the institutional settings also have to adapt to the specificities of situations of social exclusion.

Bibliography

Alcock P., 1997. Een kritisch debat in Groot-Brittannië en elders. *In*: Vranken J., Geldof D., eds. Van Menxel G., *Armoede en Sociale Uitsluiting. Jaarboek 1997*. Leuven: Acco, pp. 255-271.

Andries M., 1997. De activerende verzorgingsstaat: van 'welfare' naar 'workfare'? Ontwikkelingen in België en in de Verenigde Staten. *Tijdschrift voor Sociale Wetenschappen*, **42** (2), pp. 119-145.

Beweging ATD Vierde Wereld/Lutte-Solidarité-Travail, 1998. *Uit de opgelegde inactiviteit geraken. Verslag van de Frans-Belgische studiegroep Arbeid, Werkloosheid en Sociale Zekerheid*. Brussel: Beweging ATD-Vierde Wereld.

Cantillon B., Marx I., 1995. *Naar een sociaal doelmatig tewerkstellingsbeleid*. Brussel: Koning Boudewijnstichting.

Darmon I., Frade C., eds., 1998. *Socio-cultural aspects of labour market (re)integration: A comparative report of the CASEL case studies*. Barcelona: CASEL Consortium – Leonardo Da Vinci Programme.

Defourny J., 1997. *De pistes van de sociale economie, de non-profitsector en de buurtdiensten*. Uiteenzetting op het Europese Seminarie "Sociale Economie" – Sint-Niklaas, 6-8 november 1997.

Delsen L., 1995. *Atypical employment: An international perspective. Causes, consequences and policy*. Groningen: Wolters-Noordhoff.

De Witte H., 1992. *Tussen optimisten en teruggetrokkenen. Een empirisch onderzoek naar het psychosociaal profiel van langdurig werklozen en deelnemers aan de Weer-Werkactie in Vlaanderen*. Leuven: Hoger Instituut voor de Arbeid.

European Commission, Eurostat, Cedefop, 1997. *Key Data on Vocational Training in the European Union*. Luxembourg: EUR-OP.

European Commission, 1997. *Joint Employment Report 1997*. Brussels: EC – Directorate-General V.

Geldof D., 1999. New activation policies: Promises and risks. *In:* European Foundation for the Improvement of Living and Working Conditions, ed. *Linking Welfare and Work*. Luxembourg: EUR-OP, pp. 13-26.

Jahoda M., 1982. *Employment and unemployment: A social-psychological analysis*. Cambridge: Cambridge University Press.

Kath F., 1999. The funding of vocational education and training – An international comparison of objectives and impact. *Vocational Training*, 17, pp. 38-44.

Kroft H., et al., 1989. *Een tijd zonder werk. Een onderzoek naar de levenswereld van langdurig werklozen*. Leiden: Stenfert Kroese.

Landecker W., 1951. Types of integration and their measurement. *American Journal of Sociology*, 56, pp. 322-340.

Méhaut P., 1999. Training, skills, learning: How can new models be developed? *Vocational Training*, 18, pp. 3-7.

Mok A., 1994. *Arbeid, bedrijf en maatschappij: in het zweet uws aanschijns...* (Grondbeginselen der sociologie, nr. 1994:1). Leiden: Stenfert Kroese.

Monzon Campos J., 1992. The "Social Economy": Third sector in an evolving system. *In*: Defourny J., Monzon Campos, eds. *Economie sociale. Entre économie capitaliste et économie publique. The Third Sector. Cooperative, Mutual and Nonprofit Organisations*. Brussels: De Boeck.

Nicaise I., Bollens L., 1998. Training and employment opportunities for disadvantaged persons. *In:* Cedefop, ed. *Vocational education and training – The European research field. Background report*, Vol. II, pp. 121-153.

Nicaise I., et al., 1995. *Labour market programmes for the poor in Europe: Pitfalls, dilemmas and how to avoid them*. Aldershot: Avebury.

O'Connel P., 1997. *Working schemes? Active labour market policy in Ireland*. Aldershot: Ashgate.

Ouj B., 1999. Structural characteristics and target categories of holistic vocational training. *Vocational Training*, 17, pp. 52-61.

Parkin F., ed., 1974. *The social analysis of class structure* (Explorations in Sociology, nr. 5). London: Tavistock.

Room G., 1991. *National policies to combat social exclusion. First annual report of the European Community Observatory*. Bath: Centre for Research in European Social Policy.

Rosanvallon P., 1995. *La nouvelle question sociale. Repenser l'état providence*. Paris: Editions du Seuil.

Seibel W., Anheier H., 1990. Sociological and political approaches to the third sector. *In*: Anheier H., Seibel W., eds. *The third sector: Comparative studies of nonprofit organizations*. Berlin: de Gruyter, pp. 7-20.

Silver H., 1995. Reconceptualizing social disadvantages: Three paradigms of social exclusion. *In*: Rodgers G., Gore C., Figueiredo J., eds. *Social exclusion: Rhetoric, reality, responses*. Geneva: International Labour Office, pp. 57-80.

Verdié M., Sibille H., 1992. *Former pour insérer*. Paris: Éditions Syros.

Vranken J., 1997. Modelling in social sciences and models on social exclusion and social integration. *In:* European Commission – Science Research Development, ed. *Social Indicators: Problematic Issues*. Collective paper issued from the Seminar on 'Social Exclusion Indicators' held in Brussels, May 1995 (TSER, Targeted Socio-Economic Research Programme). Brussels: European Commission, D.G. XII, pp. 170-189.

Vranken J., Geldof D., 1999. *Integrated approaches to active welfare and employment policies*. Final Report. Paper for the European Foundation for the Improvement of Living and Working Conditions. CASUM, Antwerp: UFSIA.

Vranken J., Steenssens K., Pultau W., 1996. *Naar het middelpunt der armoede? Een onderzoek naar de structuren van het dagelijks leven van generatie-armen in een urbane omgeving*. Leuven: Acco.

Weber M. (1922/1956), *Wirtschaft und Gesellschaft*. Tübingen: Mohr.

Westerdahl S., Westlund H., 1998. Social economy and new jobs: A summary of twenty case studies in European regions. *Annals of Public and Cooperative Economics*, **69** (2), pp. 193-218.

1245

Training and employment perspectives for lower qualified people

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Abstract

Learning and a qualified labour force become increasingly important in our societies. At the same time, European countries are still confronted with relatively high unemployment which in particular affects the least qualified or low-skilled workers. The combination of a weak labour market position and low education achievement levels, might further marginalise these groups of low-skilled workers in the future if learning becomes a necessary precondition for gainful employment. Appropriate training models for developing the skills of these workers remain lacking.

This paper addresses the labour market position of low-skilled workers and factors in the functioning of the labour market that might further weaken their position. It goes on to discuss the issue of training the least qualified, drawing upon European research in the area of the effectiveness of training for the unemployed and exemplary models developed in different European Member States.

1246

Table of contents

1. Introduction 175

2. The low-skilled in a changing and dynamic labour market 175
2.1 Low-skilled: possible definitions 175
2.2 Labour market perspectives for the low-skilled 177
2.3 Labour market mechanisms; implications for the low-skilled 178
2.3.1 Upskilling, deskilling and substitution 178
2.3.1.1 Changing labour market structures 178
2.3.1.2 The skill-biased technology hypothesis versus the trade shift hypothesis 179
2.3.1.3 Upskilling versus deskilling; the role of technology 180
2.3.1.4 Substitution processes 182
2.3.1.5 Segmentation of the labour market 182
2.3.2 Summarising conclusions 185

3. The increasing importance of training 185
3.1 Introduction 185
3.2 Barriers to (lifelong) learning 186
3.3 The effectiveness of labour market oriented training 187
3.3.1 A comparative European study into the effectiveness of training for the unemployed 188
3.3.2 Major results of the study 190
3.3.3 Possible implications of the findings 194
3.4 Training of low-skilled workers 197
3.4.1 Who receives training? 197
3.4.2 New training models 197

4. Concluding remarks and discussion 199

Bibliography 202

1247

1. Introduction

Learning becomes ever more important in our society. Policy documents from both the European Commission and the Organisation for Economic Cooperation and Development, stress the importance of a well, if not highly, qualified labour force for the competitiveness of national economies (EU, 1996; OECD, 1996). At the same time various European countries are still confronted with relatively high unemployment levels, which in particular affects the least qualified or low-skilled workers. The combination of a weak labour market position and low education achievement levels, might further marginalise these groups of low-skilled workers in the future if learning becomes a necessary precondition for gainful employment. Appropriate training models for developing the skills of these workers remain lacking.

This chapter first addresses the labour market position of low-skilled workers and the factors in the functioning of the labour market that might further weaken their position. Next, the issue of training of the least qualified is addressed, drawing upon European research in the area of the effectiveness of training for the unemployed and exemplary models developed in different European Member States.

2. The low-skilled in a changing and dynamic labour market

2.1 Low-skilled: possible definitions

Before launching into an analysis of the changes in the labour market, and the implications these might have for the least qualified, it is necessary to provide a definition of the least qualified or the low-skilled. The terminology of the 'least qualified' underlines that education and training, or the level of educational attainment, is, to a certain extent, a 'positional good', in the sense that the link between a certain level of education and a certain job level can vary over time, and what, at a certain moment, is considered, for instance, as being a middle-skilled level depends on the qualification demands in the labour market vis-à-vis the supply of workers with lower or higher levels of educational attainment (Brandsma 1993).

'Least qualified' or 'low-skilled' elicits, certainly nowadays, a connotation of being 'at risk' of unemployment, social exclusion or at least being referred to those parts of the labour market with relatively little job stability, low paid and low-skilled jobs (cf. Hannan et al. 1998). What is considered to be low-skilledalso depends, partly, on policy targets and on national systems. In the Netherlands, for instance, the 'common sense' connotation of being low-skilled would refer to those who dropped out of lower secondary education (or even earlier) without having obtained any diploma or formal certificate. Or to those employed in jobs which, at face-value, do not require much general education or job specific training. At the same time, educational policy defined the 'at risk' group as being all those that did not succeed in obtaining a certificate from any upper secondary programme, with upper secondary education encompassing the apprenticeship system, school-based secondary vocational education and the last two or three years of general secondary education. This establishes a rather heterogeneous group, encompassing (cf. Bock and Hövels 1991):

- the real early leavers from lower secondary education;
- those leaving the education system after having obtained a certificate from lower secondary education;
- those leaving the education system after having spent some time in upper secondary education (including vocational education);
- those leaving the education system after having failed the final examination in upper secondary education (again including vocational education).

Defining the 'at risk' group in this way, the policy target is set such that every school leaver should enter the labour market with a

so-called 'starting qualification'. This is defined as being the equivalent of a two-year vocational (apprenticeship) programme, which is considered to be the minimum level necessary in order to have an adequate chance of obtaining a job in the labour market. It will, however, be clear that there are major differences within this target group. Those who achieved some years of upper secondary education (the latter two categories), have a different starting position in the labour market from those who did not. Those in vocational education, for instance, sometimes drop out during the period that they receive practical training within an enterprise, because the employer offers them a job (cf. Brandsma 1999), while those who have received some years of general upper secondary education appear to have more chance on finding a job in which continuing training is provided and, with that, opportunities to build a career through the internal labour market (Meesters 1992).

In attempting to define 'low-skilled', various methods could be applied ranging from the use of formal level of educational attainment within the national education system to more direct measurements of actual skills (like numeracy, literacy or computer literacy skills). Hannan et al. (1998) underline the differences and difficulties, as outlined with regard to the Dutch example, in their comparative analysis of 'early leavers' in France, Scotland, Ireland and the Netherlands, and indicate that terms like 'at risk groups', 'early leavers', 'unqualified leavers' or 'persons inadequately prepared for labour market entry' are problematic and value-laden. They also point out the heterogeneity of the at-risk group labelled in this way. What is considered to be at risk depends on the policy targets and on supply and recruitment behaviour, which tend to change over time. Hannan et al. (1998) propose – in the context of their research project – the following definition of what they call 'lower level leavers':

> 'Those who leave initial full-time education without reaching the first point of (or first opportunity for) certification within the upper second-level system'.

With this they deliberately take on board the earlier mentioned heterogeneity of this group. They discard the International Standard Classification on Education (ISCED) level categories, which they consider as being too broad and too imprecise to capture the full meaning of 'lower level leavers'. Their definition, therefore, also captures those that passed lower secondary examinations or passing grades and those that left upper secondary education before the final examinations at this level.

In their work for the Newskills project, Murray and Steedman (1998), McIntosh (1998) and Leuven, Oosterbeek and van Ophem (1998) took various approaches in order to define where the cutting-off point for the definition of low-skilled should be set. On the basis of this work, they conclude that, though using recognised qualifications obtained as a proxy for the skill levels of people is less accurate than actual measurement of such skill levels, application of the ISCED levels can be considered an acceptable solution. Apart from the fact that data on ISCED-level attainment are collected on a regular basis, thus providing up-to-date information on the proportions of national population for each level of attainment, ISCED does take into account the differences between educational systems in different countries (cf. Newskills 1999). Using the ISCED levels, the cut-off point for the definition of the low-skilled group in Europe was set at having obtained an educational attainment level of ISCED 2 or less, which equals to lower secondary education or less (with level 1 equalling primary education and level 0 less than primary education). A possible counter argument against this cut-off point could be that specific forms of training, like short continuing vocational training courses or less structured, or formalised, forms of training like attending seminars or on-the-job training, are difficult to classify. Even though such forms of training often are not officially certified, they might be recognised as adding up to the formal skill level of workers, certainly within the company specific labour market. Given that such training is difficult to capture within ISCED, applying ISCED levels might result in a slight overestimation of the number of low-skilled workers (cf. Brandsma 1999).

1249

The two different 'solutions' for this problem indicate the problematic character of demarcating the research (and policy) area of the low-skilled/least qualified. With this, is implied the sensitivity of this area for changing labour market and training policies as well as changing policy priorities. It does not seem to be a wild speculation to suppose that whether the upper or lower boundary of the 'at risk' group – as defined in the Dutch example – will attract most attention and benefit most from labour market measures, partly depends on the overall economic and labour market situation. To be more precise, in situations of high unemployment and a restricted absorption capacity of the labour market, it is likely that labour market measures will – be it intended or not – have a bias towards the upper boundary of the at-risk group, while in situations of a low or rapidly declining unemployment with difficult to fill vacancies, all attention goes to the lower boundary of the at-risk group (cf. Brandsma 1993). The present labour market situation in the Netherlands, for instance, shows these shifts in attention. There the debate presently focuses on the possibility of activating the real 'hard-core' of the long-term unemployed as well as the possibility of offering work to refugees not yet certain of their final status. Notwithstanding these possible shifts in attention, depending on the general economic and labour market situation, there appears to be a growing consensus that, at least, completion of upper secondary education (ISCED level 3) is needed for a good starting point in the labour market, as is reflected by the various 'safety net' programmes established in various countries for young people that do not continue their studies after lower secondary education (e.g.: social guarantee programmes in Spain, individual training programmes in Denmark and Sweden, assistant training programmes in the Netherlands, 'qualification contracts' in France and NVQ/SVQ level 1 programmes in the UK).

2.2 Labour market perspectives for the low-skilled

Even though the economic upswing in many European countries might, to a certain extent, also bring relief for the weak labour market position of the low-skilled and/or long-term unemployed, overall this position is rather vulnerable. Based on IALS-data, the OECD (1998) comes to the conclusion that low skills (defined as ISCED level 2 or less) have a strong correlation with inadequate foundation or literacy skills. This does not only concern the whole labour force aged between 16 and 65 years, but also the younger age cohorts of 16 to 25 years old[1]. Poor literacy skills among young people increase the chance of becoming unemployed. Even if these young people with poor literacy skills find employment, their chance of ending up in unstable and poorly paid jobs is substantially higher than young people with adequate foundation skills.

In their comparative study across four countries, Hannan et al. (1998) show that lower level leavers are more likely to be unemployed or in apprenticeship or labour market schemes than being employed. Here it is necessary to recall their definition of lower level leavers, which states that it concerns those who leave full-time education without reaching the first point of certification within the upper second level, that is full-time education system. Therefore, their conclusion also encompasses apprenticeship, which by definition means that entrants have left school and which is perceived by Hannan et al. (1998) as an alternative post-school vocational training and as an early labour market outcome. However, in countries where apprenticeship training has a strong tradition and is highly institutionalised (like Germany, Austria and also the Netherlands) apprenticeship training is considered an integral part of the upper secondary education system and those who enrol in apprenticeship training are certainly not perceived as lower level leavers.

In countries with high unemployment rates in the youth labour market, those with a higher educational level have significantly

[1] Though there are differences between countries in the sense that in some countries adequate literacy skills have been obtained even if young people did not conclude upper secondary education.

1250

better chances of staying out of unemployment than lower level leavers. At the same time, it appears that the quality of jobs held by lower level leavers is less than the quality of jobs (in terms of stability, income and utilisation of what has been learned) available for higher level leavers. Lower level leavers appear to be more often employed part-time in manual occupations, though on a steady basis. Lower level leavers are also less actively engaged in the search for another job. The findings of Hannan et al. (1998) indicate that unemployment appears to be handed down from one generation to the next. In addition to the relation between parental unemployment and the unemployment of the present generation, it appears that the chance of 'early leaving' (or low level leaving) is related to such background variables as gender, ethnicity[2], and socio-economic background. Young men are more likely to become lower level leavers, as are young people from lower socio-economic backgrounds. At the same time young women have a higher chance of being unemployed or in labour market schemes (including apprenticeship) than young men.

These findings, and, in particular, the one regarding the influence of socio-economic background, lead Hannan et al. (1998) to the conclusion that the educational casualties will be concentrated amongst those from the most deprived families. Even though there are differences between countries, this conclusion holds for each of the four countries included in the study.

The previous section mainly addressed the labour market position and perspectives of low-skilled school leavers in a period of increasing average levels of educational attainment. What is the labour market situation of the low-skilled in general, including the other generations? In their work for the Newskills project[3], Murray and Steedman (1998) show that, overall, the proportion of the low-skilled (according to their earlier definition) in the labour force is dropping, with the younger age cohorts (16-28 years old) being substantially better educated than the older cohorts. Again there are differences between countries with regard to both the proportion of low-skilled in the labour force and the speed with which this proportion is dropping. In some countries with a relatively high proportion of low-skilled (ISCED level 2 or less) in the labour force (like the UK) this proportion drops faster than in countries with a relatively smaller proportion of low-skilled (e.g. the Netherlands), but, given the initial higher proportion of the former countries, it will take more time for the proportion to drop to a 10% level than in the latter countries (Murray and Steedman 1998).

Analysing data covering a period from 1985 to 1997, Kirsch (1999) concludes that the labour market position of the low-skilled (ISCED 0-2) is not a prosperous one and has deteriorated during that period (with the exception of Portugal). The likelihood of both unemployment and inactivity are considerably higher for the low-skilled than for the total labour force. Even though in all countries included in the Newskills project the proportion of the low-skilled has decreased, the likelihood of being either unemployed or inactive has increased during the period between 1985 and 1997. This suggests that the low-skilled have faced a further marginalisation during those years (Kirsch 1999).

2.3 Labour market mechanisms; implications for the low-skilled

2.3.1 Upskilling, deskilling and substitution

2.3.1.1 Changing labour market structures

The previous section outlined the relative weakness of the position of low-skilled workers in the labour market as well as the deterioration of this position. The question is whether this can be explained given that, at the same, time the proportion of low-skilled in the total labour force has dropped. It appears that there are several, more or less rival, explanations referring to (among others) economic restructuring, upskilling, substitu-

[2] Ethnicity has only been included as variable in the Dutch data set.

[3] This project encompassed France, Germany, the Netherlands, Portugal, Sweden, and the UK.

1251

tion and segmentation. These possible explanations will be discussed in this and the next section.

Looking at the changes in employment structure during the 1980s and the early 1990s, it becomes clear that there has been a significant redistribution between sectors with regard to employment. Traditional sectors like agriculture, manufacturing and utilities have strongly declined while the service sector has boomed (Robinson 1997). In his analysis for the Newskills project, Kirsch (1999) indicates that employment for the low-skilled (ISCED 0-2) has a rather segmented nature. Irrespective of country specific differences, there is a group of sectors where employment for the low-skilled appears to be concentrated, while other sectors have little or no employment for low-skilled workers. The former group appears to consist of sectors like agriculture, manufacturing sectors like clothing and extractive and process industries, transport and hotels, catering, retailing and small repairs. Apart from the last four service sectors, these are mainly sectors in decline, which, as indicated earlier, can (partly) explain the worsened labour market position of the least qualified.

At the same time, these traditional sectors have been the major providers of employment for the low-skilled. The decline of these traditional sectors appears not to be compensated for by the growth of the service sector, at least not in terms of the employment of the low-skilled, As in other sectors, employment growth in the service sector is mainly accounted for by the increasing number of managerial and administrative functions, proximity services and personal services. It appears that, especially in those non-manual functions, skill demands have been raised as well, both in terms of formal educational attainment requirements and in terms of training time needed to fully master the job (Gallie 1991).

2.3.1.2 The skill-biased technology hypothesis versus the trade shift hypothesis

Wage inequality literature offers two rival hypotheses to explain the rise in skill demands. One the one hand, skill demands have risen as a consequence of skill-biased technology. On the other hand, skill demands have risen due to shifts in the location of production of low-skilled manufactured goods; this is an argument that could be related to what has been indicated with regard to decline of employment in specific sectors (Newskills 1999). Both hypotheses assume that an increased wage inequality indicates a drop in both the wages of and the demand for low-skilled workers. The skill-biased technology change hypothesis mainly focuses on the relationship between technological change (often equated with increased use of computers) and the increasing demand for highly skilled workers (as expressed in increasing wage inequality). Overall, the literature suggests that there is a relationship between computer usage and the increased demand for high skilled labour, if an increasing wage inequality is taken as an adequate indicator for this. However, much of the research undertaken focuses on 'computer-usage' and on subjective judgements of either employers or employees, or both, without taking into account other 'explanatory factors' (like the hierarchy or flatness of work organisations, worker independence in taking decisions, etc.) nor trying to find more objective indicators for actual differences in skill demand levels. As will be argued later on, there is some evidence for contrary developments as well.

The trade hypothesis focuses on the effects of the shift of mass production of low-skilled goods from highly industrialised countries to developing countries. This shift reduces the price of those goods and, in consequence, causes deterioration of the competitive position of such manufacturing industries in highly industrialised economies, since these are confronted with much higher labour costs than developing countries. The evidence to support this hypothesis shows that only a small proportion of the falling demand for low-skilled labour (or the increasing wage inequality) can be explained by this (Newskills 1999). Nevertheless, there are various examples of sectors, or parts of sectors, which completely relocated production to the so-called 'low wage countries' to the detriment of (low-skilled) employment in Western European countries.

The textile industry is a very impressive example in this respect, but it is also the case that various enterprises in consumer electronics replaced part of their production (of half fabricates) to the low wage countries.

The wage inequality approach focuses on wage inequalities as an indicator of, or proxy for, the changes in skill demands[4], but does not measure the actual (changes in) the demand. Other studies, like the earlier mentioned study of Gallie (1991) indicate that there has at least been a rise in the demand for formal educational attainment level. This work also indicates that this is the particular case for jobs in which automated and computer equipment is used, while this is much less the case for jobs in which such equipment is not used. Similar findings with regard to the increasing levels of educational requirements and periods of additional training needed are indicated by Green et al. (1998) and Hasan and Tuijnman (1997). Again, it should be stressed that this work draws to a large context on 'subjective' judgement of the change in skill demands.

2.3.1.3 Upskilling versus deskilling; the role of technology

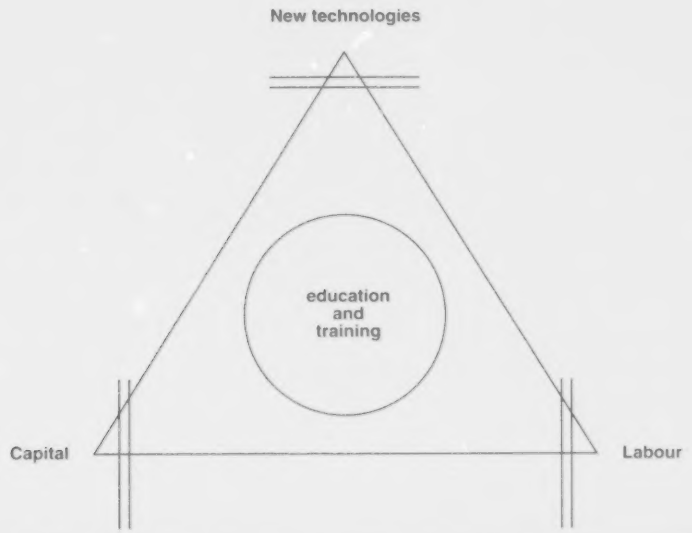
However, there is also evidence which seems to contest such findings. Some studies show that there is complementarity between skills (or skill levels) and organisational change, indicating that organisational change stops when there is a relative shortage of highly skilled workers (cf. Caroli and Van Reenen 1999; Newskills 1999). The question is whether it is the availability of highly skilled labour that drives organisational change, or whether organisational change elicits an increase in demand for highly skilled labour. Currently, evidence seems to support both assumptions without (yet) giving decisive support for either one of them.

Various authors have underlined that technological change does not automatically lead to higher skill demands, but that the effect of technological innovation on skill requirements is mediated by the organisational structure of labour organisations (Carnevale 1991; Brandsma 1993; Keep 1997; Stern and Benson 1991; Tuijnman 1993). These authors argue that the fact that technological innovation has not led to the expected increase in productivity and economic growth could be caused by a less optimal, if not, inflexible and inefficient use of such technologies. Efficient and flexible use of the production factor technology might require flatter and more flexible organisations and additional training of the employees working with those technologies (Tuijnman 1993). Whether or not introduction of new technologies will result in increased productivity and/or increased skill demands, partly depends on the way in which new technologies are employed. Available skills or skills to be developed, design of work processes and the effects of the implementation of new technologies are very much intertwined, as is shown in Figure 1.

In line with this, various authors have argued that whether or not upskilling takes place, will depend on the particular management strategy employed. Technology can be used for further rationalisation as well as for innovation in the organisation, providing workers with greater responsibilities. In this context, Brown and Keep (1998) indicate that it sometimes seems that the new forms of work organisation, which are alleged to be necessary if enterprises want to survive, are primarily advocated by academics and management gurus, but do not (or only partly) reflect practices in business and industry. In less knowledge-intensive sectors in the UK, like the retail sector and insurance companies, there appears to be a tendency to increase scale and rationalise work processes in order to reduce costs and optimise profits. In this

[4] Above all it focuses on wage inequality as an indicator of productivity. Concerning the latter, there is substantial evidence that productivity is relatively low for low-skilled workers if compared with more highly educated workers, though the relative level of productivity of low-skilled workers appears to be influence by the overall level of educational achievement of the total labour force as well (with higher levels of overall educational achievement increasing productivity among low-skilled workers) (Nickell 1998). There are indications that increasing levels of skill demand are related to, or stem from, increasing demands with regard to productivity.

Figure 1: Relations between the three primary production factors and education and training of the labour force



Source: Tuijnman, 1993

context, Brown and Keep (1998) come to the conclusion that Fordism certainly is not dead yet. Similar tendencies are observed for Germany. In sectors where knowledge or competence is a less crucial factor, enterprises try to rationalise their production and work processes in order to increase profits, with the consequence of reducing employment. For workers being made redundant due to these rationalisations, the consequence is often a further marginalisation of their labour market position (cf. Tessaring 1998).

Of course, this might concern specific enterprises or sectors and does not necessarily apply to the whole economy or the macro-level, though there appear to be country specific tendencies in this respect. Some studies indicate that, for instance, British managers appear to require significantly lower levels of skills and qualifications than the EU-average and perceive a skilled workforce less as a source of competitive advantage than their French or German colleagues (Coopers and Lybrand 1995; European Foundation for the Improvement of Living and Working Conditions, 1998). Nevertheless, if the drop in demand for low-skilled workers (which occurs in all OECD-countries) is taken as an indicator, at least at a macro-level there appears a shift in employment structures towards a high-skill, high-performance mode of working (cf. Brown and Keep 1998).

Labour organisations can thus choose management strategies and market profiles that might actually result in deskilling or in a form of polarisation between different groups of employees. An exemplary development with regard to the latter, is the slowly emerging development in some labour organisations that distinguishes between 'core workers' on steady contracts and so-called flex-workers, that are only employed temporarily. Keep and Mayhew (1998) further indicate that there are various alternative strategies to allow enterprises to cope with this competition – alternatives (e.g. like growth through takeover or new forms of Fordism) that are not based on upskilling and higher quality. The strong belief that increasing levels of knowledge and skills are the core factors in increasing and improving performance of enterprises, does not take into account that there are other factors playing a role in this process as well. As Keep (1997) states:

'The other pieces include human resource management systems and policies (...), product market strategies, work organisation, job design, investment in R&D and plant and equipment, supplier policies and the external infrastructure (...). Each element needs to be finely meshed with the other in order to produce the high performance organisation'.

2.3.1.4 Substitution processes

Next to the issue of upskilling or deskilling, there is another phenomenon that could explain the not-so-prosperous labour market situation of the low-skilled. As Hannan and Werquin (1999) indicate various studies show a rapid growth in the supply of workers with higher educational levels across most EU-countries but without an accompanying and similar rapid growth in occupations that require such higher levels of education. Most of the educational change in terms of an upward shift in average educational attainment appears not to be due to an upward change in skill or qualification demand, but to changes in the supply of more highly educated labour (cf. Béduwé et al. 1998; Robinson and Manacorda 1997; Hannan and Werquin 1999; Robinson 1997). Hannan and Werquin therefore conclude that the research in this area does not support the demand-driven technological change hypothesis and that there is also some evidence from the same studies for the credentialist hypothesis (see also Büchel's contribution to this report on the debate on overqualification).

Whereas the demand-driven technological change hypothesis stipulates that increased demand for higher skill levels due to technological innovation has led to increased average educational attainment, the credentialist hypothesis refers to the role educational attainment or diplomas have in the recruitment and selection processes in the labour market. In this instance, education is seen in terms of achieved level of diplomas and certificates are perceived as 'earned credentials' that indicate, for instance, learning capabilities, trainability and perseverance of the candidate. Certainly in situations where employers can choose what they like, such as high (overall) unemployment and/or an oversupply of highly educated labour – and especially the combination of the two – they will opt for the highest credentials. The consequence of this is that the higher educated (or overeducated) substitute those with lower qualification levels by competing with them for jobs formerly taken by less qualified workers, thus pushing the least qualified (or otherwise less attractive workers) out of the labour market. There is substantial evidence that such substitution processes have occurred and most probably still occur in periods of economic recession (Brandsma 1993). At the same time, as Hannan and Werquin indicate, there is quite some evidence that the highly educated may enter the labour market in lower status jobs, but appear to become upwardly mobile after some years in the labour market, moving up to jobs that match their qualification level (cf. Hannan et al. 1998). Similar evidence has been found in various Dutch labour market studies (Brandsma 1993; Hövels and Van den Berg 1992; Hövels and Van Dijk 1989).

2.3.1.5 Segmentation of the labour market

As indicated earlier, Kirsch (1999) states that employment for the low-skilled has a rather segmented character, being concentrated in specific sectors of economic activity. His analysis points at a particular phenomenon in the functioning of labour markets, which can provide an additional explanation for the weak or weakened position of the low-skilled in the labour market. It concerns the segmentation of the labour market into different (sub)segments with differential access.

The labour market has never been homogeneous. In the debates on the match between vocational education and the labour market during the 1980s, critics of so-called planning approaches pointed out the neglect of the segmentation of the labour market as one of the weaknesses of these models. It was stressed that, on the one hand, graduates from a particular vocational programme could end up in completely different jobs (even in occupational areas for which they had not been trained), while within particular occupations or jobs one could have varying educational backgrounds. On the other hand, it was indicated that the extent to which graduates

1255

would have access to that part of the labour market that provides relatively skilled and secure jobs depends on the valuation of their particular training by the labour market as well as other attributes like gender, age and ethnicity (Brandsma 1993). This segmentation of the labour market was considered to be one of the complicating, if not distorting, mechanisms in the match between education and the labour market.

Probably the best known distinction between different segments is the one between the primary and secondary segment (cf. Doeringer and Piore 1971), with the primary segment (or economic sector) encompassing competitive and profitable sectors and enterprises with good prospects, that are able to offer stable jobs, good wages and career perspectives. The secondary segment (or economic sector) encompasses the marginalised sectors and enterprises that have to struggle to survive and mainly offer rather unstable, poorly paid, unskilled and monotonous jobs with little career perspective.

The distinction between primary and secondary segments is slightly confusing in the sense that it actually mixes sectors of economic activity with the distinction between internal and external labour markets. Referring to the latter, Lutz and Sengenberger (1974) assume that labour market segmentation is primarily based on the recruitment, allocation and utilisation of qualifications. In their perception, enterprises have two options for solving problems in filling their qualification demands:

a) recruiting and hiring qualified staff in the external labour market;

b) training their own staff up to the level required.

Based on this, they distinguish three segments: the internal enterprise-based labour market (with internal training as the drive for this segment); the external vocation-based labour market (with the availability of external qualified labour as assumption); and the residual market or the market for *Jedermannsqualifikationen*.

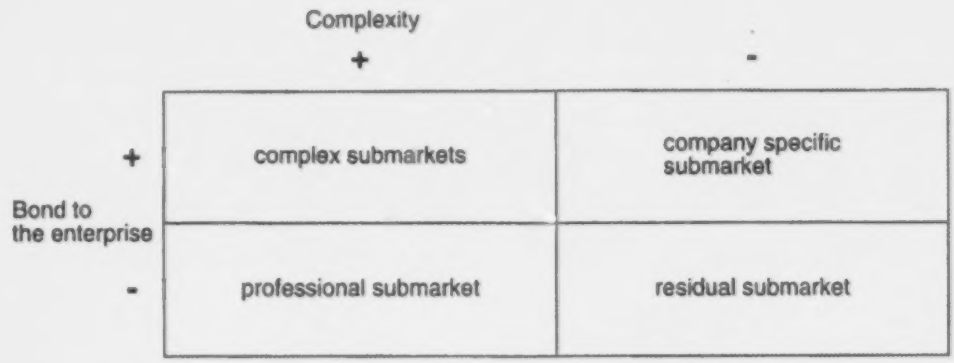
Of course, this is not the only typology of labour market segmentation. Althauser and Kallenberg (1981) for instance, indicated that the internal enterprise-based market and the external vocation-based market can be further subdivided into a general external and an internal enterprise-based market, with the latter being characterised by vertical job-chains or career ladders that are only accessible by a limited number of entries at the bottom.

Labour market segmentation has not disappeared and is still an issue, though less pronounced than one or two decades ago when it was strongly highlighted in the context of the match between education and the labour market. What, however, appears to need more attention in this theoretical area, is, on the one hand, the inevitable changes in labour market structures and, on the other hand, the implications for access to (continuing) training and lifelong learning. With regard to the former, Hövels (1999) distinguishes two dimensions for classifying the present labour market into sub-markets. The first dimension refers to the complexity of the jobs or the complexity (or level) of the technical-instrumental qualification requirements. The second dimension is the bond to the company or the firm-specificity of the qualifications. One can argue that the first dimension is too simple and restricted, actually returning to one of the alleged mistakes of previous planning methods by referring only to technical-instrumental qualifications and neglecting the non-technical and non-instrumental qualifications that have become more and more important over the last decade (Brandsma 1993). However, the dimensions as such, can be relevant for identification of emerging sub-market or labour market segments. Applying the two dimensions, Hövels (1999) distinguishes four submarkets (Figure 2).

The professional, company-specific, and residual sub-market are the same as, respectively, the external vocation-based, the internal enterprise-based, and the residual labour market as distinguished by Lutz and Sengenberger (1974). The complex sub-market is a new labour market segment, characterised by Hövels as the labour market where specific

1256

Figure 2: Typology of labour market segments according to dimensions 'complexity' and 'bond to the enterprise'



Source: Hövels, 1999

combinations of professional qualifications and company-specific qualifications are required (Hövels 1990, 1993). As examples he mentions teachers, medical specialists and mechanical engineers, working in changing labour-markets, requiring more and more company-specific skills.

An occupational identity might be relevant for the complex and the professional sub-market, but in a company specific sub-market one could better speak of a corporate identity, while neither of the two concepts seems applicable for the residual market.

A tendency which cannot be fully captured by Hövels' classification of sub-markets, is the differentiation between employees that some authors presume will become more and more important in the near future (cf. Kessels 1996). It concerns the distinction between 'core workers' and 'flex workers'. 'Core workers' are employees with a strong bond to the enterprise where they work, and with steady and gainful labour contracts. 'Flex workers' are employees that either are hired on the basis of a temporary contract or through temp agencies. Though one could argue whether this development is really in existence and affecting all economic sectors to the same extent, or only partly exists on the desk of academics, there are indications that support this distinction. Out-sourcing and retreat of enterprises to their core activities is a development which has been signalled already for a couple of years, though to different degrees between sectors of economic activity. In the areas of the complex sub-markets and professional sub-markets there appears to be a particular tendency for part of the 'non-core' employees to be highly educated workers employed on a temporary basis. Such workers set the present trend of so-called 'job-hopping', moving from one project to another with different employers, accumulating a wealth of experience of applying their knowledge and skills in different settings, and thus accumulating their human capital.

The implications of this development for the labour market position of flex workers, needs further elaboration. The tendency towards flexibilisation of the labour relations does not, by definition, mean a weakening of the labour market position of all flex workers. It is necessary to distinguish between relatively

1257

highly qualified flex workers and low-skilled flex workers. The former will often have no difficulty in finding new jobs for which, given their qualifications and experience, they can demand good labour conditions. Though employed on temporary contracts, these 'job hoppers' have a relatively good labour market position with sufficient opportunities to develop their career as well as their skills and competencies. There is evidence that temp agencies have great interest in these 'job hoppers', providing new market niches for the temp agencies while meeting the demands of the high skilled flex-workers for flexibility and alteration.

The implication of the distinction between core workers and flex workers for less or low-skilled workers, might be less promising. For them, the flexibilisation of the labour market might mean that they will be faced with periods of unemployment in-between periods of temporary work. Given the learning potential of the type of jobs they will take on, and the temporary nature of their employment, neither these flex workers themselves nor the enterprises that hire them will be much inclined to invest in training and learning. For temp agencies too it does not appear profitable to invest in the training of these workers. What the implications of the flexibilisation of the labour market might be in the long run for these low-skilled flex workers, is difficult to say. Nevertheless, developments in the labour market as outlined here, show that the labour market becomes ever more complex and differentiated. This will have implications for lifelong learning.

2.3.2 Summarising conclusions

Summarising the previous, one can say that the deterioration of the labour market position of the low-skilled appears to be caused by a combination of factors. Sectors of economic activity which traditionally employed relatively large proportions of the low-skilled have economically declined or moved to developing countries with lower labour costs, while other (and newer) sectors have not compensated for this, since educational requirements are higher and have increased over the last decades. This segmentation of the labour market, with low-skilled workers being allocated to certain, declining sectors of economic activity and/or jobs that are characterised by instability and little career and learning potential, is another factor in the deterioration of the labour market situation of the least qualified. Tendencies like the distinction between 'core workers' and 'flex-workers' might even worsen their situation in the (near) future.

Economic recessions – the most recent during the early 1990s – have further aggravated the weak labour market position of the low-skilled. Average levels of educational attainment have increased rapidly in most countries of the EU, while job openings matching this increase in educational level, have not kept up with that shift and labour markets have provided insufficient possibilities for the absorption of all the highly qualified labour market entrants. This leads to the (possible and plausible) consequence of substitution. Technological innovation does play a role in this, but not such a straightforward one as is sometimes assumed. Depending on organisational and managerial decisions, and the way in which work and production processes are designed, new technologies can lead to upskilling, but also to deskilling, at least for some of the employees.

3. The increasing importance of training

3.1 Introduction

Concepts like learning organisations, learning societies, learning regions and learning economies appear to have rapidly gained popularity among policy makers as well as researchers. Though some would argue that these concepts are already on their decline, being overtaken by newer 'management' concepts like knowledge management, competence management and competence development (cf. Mulder 1999), this only seems to be a question of 'labelling'.

Though the issues of continuing training and lifelong learning per se are not new, they seem to have settled in the centre of (political and

public) attention more strongly than ever before. Publications like the European Commission's white paper 'Teaching and learning; towards a learning society' and the Organisation for Economic Cooperation and Development's report 'Lifelong learning for all' (both published in 1996) reinforce this impression. These are not the only examples. Debates on arrangements and incentives to increase the investment in training are on many a political agenda and in various countries national committees or national action programmes been established during recent years, with the aim of enhancing lifelong learning if not actually establishing a 'system' for lifelong learning (examples are: the UK, Norway, Iceland, Finland, Sweden the Netherlands and recently also France). In the terms of the European Commission's white paper, the aim is to establish a 'learning society'.

The common arguments underpinning the various training and management concepts, refers to the necessity of a continuous development of knowledge, skills and competencies of the labour force in order to sustain and enhance the competitiveness of European economies and individual enterprises. With reference to developments such as the ageing labour force, globalisation of economies and societies, increasingly wide-spread use of ICT and flexibilisation of labour and the labour market, it is stated that lifelong learning is inevitable (European Commission 1996; OECD 1996). In order to be able to maintain the competitive position of European enterprises, it is considered a necessity that these enterprises are both innovative and knowledge-intensive. It is presumed that Western European economies should focus on knowledge-based industry, products and services and discard more routine mass production. The market demands tailored goods and services and the areas of (financial and business) services, and information and communication technology are the most promising sectors for the next decade. The ability to innovate is perceived as a precondition for enterprises to meet new and increasingly differentiated demands.

The implications these developments might have for enterprises and their workers are emphasised in a report from KPMG (1998) on a scenario for lifelong learning:

> '... lifelong learning has meanwhile become a necessary precondition for further economic success. Labour organisations of the near future have definitively said goodbye to the organisational principles of Taylor and Ford. A customer--oriented way of working and permanent innovation are the most important credos of enterprises that are robust enough to face the future. Continuous innovation is not only necessary for satisfying customers, but also for staying ahead of competitors. The goods many knowledge companies produce are, moreover, often unique and only produced once, which makes innovation an integrated part of the production process. Customer-oriented production and permanent innovation require flat organisations with independent, responsible and competent workers, capable of working in varying teams.'

Whether or not this quote reflects the practices in all enterprises or only an elite group of learning organisations – which presently still seems to exist of mainly a relatively small group of large(r) enterprises (Tjepkema 1998) – is difficult to say. At the same time it is not clear yet to what extent developments implied in the quote will permeate all economic sectors and all enterprises, irrespective of their size, profitability or locality. However, it cannot be denied that the increasing emphasis on flexibility, adaptability and continuous learning of the labour force, directly affects the least qualified or low-skilled workers (whether employed or unemployed). Overall, the least qualified have a relatively weak position in the labour market and are more often confronted with (long-term) unemployment, with the risk of social exclusion in the long run.

3.2 Barriers to (lifelong) learning

The necessity for lifelong learning seems to be less homogeneous than often assumed on the basis of the dominant economic perspective on lifelong learning. At the same time, this dominant perspective seems to be based

1259

on an implicit starting point that might not simply be inadequate, but actually ignores important barriers to investment in learning and training. The implicit starting point is that all enterprise and individuals are confronted with a similar necessity for learning and, moreover, that all individuals are equally stimulated to learn, just as all enterprises are equally stimulated to invest in training. It is assumed that increased learning, and increased investment in learning, is good and that we all equally want to learn. With this position, important barriers to participation in training and lifelong learning are denied, which can result in the development of inadequate strategies to implement and enhance lifelong learning.

On an individual level, important barriers to learning are related to motivation to learn, aptitude to learn and assessment of the possible benefits of learning. Individuals that are not motivated to learn, or do not see the value added of learning, will not easily take their own initiatives to start learning. The work environment and the specific job in which one is working can be an important determinant of the motivation to learn. A work environment that does not stimulate people to learn and is characterised by routine jobs will not motivate people to learn. Certainly, if employees have been working for a longer period in such a work environment, they will often have 'dislearned' to learn and need targeted support to pass (psychological) thresholds to start learning again. Often restoring the aptitude to learn and increasing the motivation to learn will take time.

At the same time, the motivation to learn can also be reduced and suppressed by a lack of clarity in the possible benefits of learning. This might be caused by a lack of opportunity to apply what has been learned or by unclear, or even contradictory, expectations from managers and supervisors. In addition to this, it is very difficult for individuals to foresee and quantify the benefits of their private investments. Considering that, individuals cannot, like large(r) firms, spread financial risks, and that it is nearly impossible for them to identify the optimum level of investment – the Pareto-optimum after which costs will exceed benefits – investment in training is an even more risky undertaking for them than for enterprises (Brandsma 1994; Ritzen and Stern 1991).

Lack of motivating work and clarity with regard to the benefits of learning are not the only barriers to participation in learning, though the importance of the motivational factor cannot be underestimated and the work (or living) environment plays an important role in this. There are indications that the unemployed are more ready to enrol in labour market training if there is a guarantee that it will result in gainful employment once the course in finished (Brandsma et al. 1999; Anderson et al. 1993).

Other barriers to participation in training can be the lack of a training offer that matches the interests and capacities of people, the locality where the training is provided (places difficult to reach by public transport, less safe areas, etc.), the lack of practical assistance such as child care facilities or lack of time or energy (Brandsma 1994). Concerning the last of these, Keep (1997) indicates that long-term unemployed or the most excluded, suffering from pure poverty, might not even be able to participate in any learning or training, given that they need all their time and energy just to survive. In a cynical way, some point out that even this is a form of (lifelong) learning (cf. Bolhuis 1999).

3.3 The effectiveness of labour market oriented training[5]

The present emphasis on the importance of training and learning raises the issue whether this can contribute to the improvement of the labour market and the work situation of the low-skilled, and especially the (long-term) unemployed. Nicaise and Bollens (1998) report that, at an individual level, participation in training can have an important effect in terms of obtaining a job, but that, at a macro

[5] This section is based on the final report of the TSER-funded project on effectiveness of labour market oriented training for the long-term unemployed (Brandsma et al. 1999).

1260

level, the effects can be offset by dead weight losses and substitution. At the same time, they point at the 'black box issue'. Although there appears to be a substantial body of work on long-term unemployment and training of (long-term) unemployed, theoretical or empirical work concerning the relative contribution of the programmes' organisational, curricular and instructional characteristics and the interdependencies between these characteristics is much less developed (cf. Nicaise and Bollens 1998).

In general, it is known that, on the one hand, the background characteristics of trainees are related to the effectiveness of training programmes (cf. Lee 1990; West 1996), and that, on the other hand, the selection procedures and criteria, used by employers in hiring personnel, influence the extent to which the former long-term unemployed will be able to find a job, once they have finished their training (cf. Van Beek 1993). Various research projects (in the Netherlands, but in other countries as well, cf. Nicaise and Bollens 1998) have shown that in training courses with a mixed population (short- and long-term unemployed, women re-entering the labour market, and those who participate on behalf of retraining), the long-term unemployed have the least chance of finishing the course successfully, while women re-entering the labour market and those participating in retraining are the most successful. These differences in success rates are partially explained by the relatively lower level of prior educational attainment of the long-term unemployed (cf. Den Boer 1995).

Ethnicity and the length of the unemployment period, prior to enrolment in the training course, also appear to have an influence, certainly on the outcome. The longer the period of unemployment prior to enrolment, the smaller the chance of finding a job once training is concluded (De Koning and Van Nes 1990). Ethnic minorities have a lower chance of finding a job after training has been finished; it might be that in this case 'discriminatory creaming' plays a role (Bavinck and Van der Burgh 1994; De Koning and Van Nes 1990; De Koning, et al. 1988; De Koning et al. 1993). In addition to this, results from other evaluation studies indicate that training programmes become less effective with the increasing size of these programmes and with the increasing heterogeneity of the participants (OECD 1998). This indicates that targeted training programmes are needed, tailored towards the specific capacities, interests and needs of specific groups of participants.

There is also evidence of differences between training programmes in their efficiency and effectiveness (e.g. from studies from the Netherlands, Denmark and Norway), which cannot simply be explained by sectoral or regional differences in the labour market situation. But the extent to which process characteristics are taken into account is rather limited (Nicaise and Bollens 1998). The question, therefore, is what causes these differences? If the training (process) as such, is interpreted as a black box, this question could be rephrased in terms of, 'what makes the difference inside the black box?'

3.3.1 A comparative European study into the effectiveness of training for the unemployed

One of the research projects funded under the Targeted Socio-Economic Research programme within the fourth framework programme of the European Commission, specifically focused on the issue of differences in the effectiveness of labour market training for the (long-term) unemployed caused by differences in the training process and organisation. Seven countries participated in this project (Belgium, Denmark, Greece, Ireland, the Netherlands, the UK and Norway). The project was established as a comparative research project aimed at developing a (multilevel) effectiveness model of labour market oriented training for the long-term unemployed. The study was structured in three stages, encompassing an inventory of the major characteristics of the various labour market schemes in the participating countries, comparative case studies to further develop the conceptual model and a survey among training providers and former trainees that followed a labour market-oriented training course within those training organisations. The last stage was specifically in-

1261

tended to test the model and to test which process characteristics of the training provided influenced the effectiveness of the training. With regard to the 'effects' of the training, a distinction was made in the preliminary model, drafted on the basis of a literature review, between 'output' and 'outcome', which were defined as:

a) output: finalising the course;

b) outcomes: finding a (stable) job related to the course and/or continuing in education or vocational training.

The process indicators included in the study concerned, among others, the availability and offer of guidance and counselling, the inclusion of practical training within an enterprise (and the form of this practical training), the duration and practical orientation of the course, the enrolment procedures and criteria, and the organisation and flexibility of the course.

One of the major difficulties within the project concerned the substantial differences in labour market training programmes run in different countries. Differences were, of course, expected beforehand, as were the problems with undertaking comparative research in the area of education and training, given the differences in the systems. However, in dealing with formalised education and training systems (certainly primary and general secondary education), ISCED provides a certain reference framework for comparability, even though many problems still remain to be solved (Brandsma and Sherman, forthcoming). Where labour market related education and training comes into question, the variety (for instance in specialisations) becomes increasingly more complicated, which is further aggravated if programmes cannot be easily classified within ISCED (which at least gives an indication with regard to the comparability of level[6]). In addition to this, it appeared that there were major differences between countries with regard to the extent to which training schemes were centralised or standardised (according to content) and the extent to which work experience or work placement was included. Concerning the first of these, it appeared that an overall distinction had to be made between:

- national programmes encompassing courses which are provided on a national level (that is: courses which are similar, or more or less comparable, irrespective of the region or place where they are provided);
- national framework programmes, within which actual course decisions and provision are more or less decentralised (or devolved to a lower administrative level, like regional committees), and where courses are not, by definition, comparable between regions;
- decentralised provision of training, characterised by a variety of local initiatives.

With regard to the extent of inclusion of work experience periods, a distinction could be made between:

- school-based courses, with only a small percentage of total curricular time spent on practical training (either within the training centre or within an enterprise);
- mixed type courses, in which a more substantial part of the total curricular time is spent on practical training in enterprises, or in which school-based and work-based training are alternated;
- mainly work-based courses, where the majority of the curricular time is spent on practical 'on-the-job' training;
- fully work-based training or work placements.

This variety made a comparative study particular complicated. This was particularly so since, in some of the participating countries, a rather wide range of different training initiatives existed (e.g. Denmark) aimed at different target groups, while, in other countries, only a few major schemes were run (e.g. Greece, Ireland), though sometimes with sub-

[6] This particularly holds for the revised ISCED 97.

stantial regional variation according to the actual courses provided. The Training and Enterprise Council (TEC)-led system in the UK in particular posed a problem, since variations between regions could be very large without having at the same time a national overview of what was being provided in different regions. This made a comparative research project a particularly difficult undertaking. Though attempts were made to sample training programmes or courses in such a way that comparability on basic issues was ensured (attainment level at the end of the training, main sector of economic activity for which was trained), it was necessary to accept the differences in the labour market training systems between countries[7].

3.3.2 Major results of the study

Differences and similarities between training programmes

Notwithstanding the problems encountered in actually undertaking the research, the study yielded some interesting results. As expected, the training programmes included in the study differed substantially according to organisation, content and process, though differences were less great than expected (only the duration of the course, the flexibility of curricular organisation and the extent to which the training organisation attempted to keep track of former trainees appeared to be significant).

In addition to this, there were some striking and not-expected similarities between the different training programmes studied in the seven countries. These similarities concerned:

- design characteristics of the training courses and, in particular, the extent to which courses were modularised (which held for about two-thirds of the courses). However, it should be taken into account that the concept of modularisation can be confusing. Some understand it as 'cutting' the curriculum into blocks or periods, while others perceive it as a didactical principle as well, where modules constitute relatively independent curricular units encompassing, presentation, practice and evaluation, increasing the flexibility of proceeding through the programme and the trainee's influence on his/her own learning process;
- inclusion of job search training, often paying attention to job search training throughout the whole course;
- provision of guidance and counselling to trainees, again often throughout the whole course. Financial and economic support is one of the lesser support systems and, if it is provided, this is mainly done by specialised staff (counsellors or specific trainers) or the employment service. In addition to this, guidance and counselling during the transition stage, i.e. during the transition from the training into the labour market (of other further training), is rarely provided.

Former trainees

Former trainees were interviewed on behalf of the study. It appeared that the majority that responded had been unemployed for one year or less (with over a quarter of the total response group having been unemployed for less than six months), were relatively 'well' educated, with less than a fifth not having followed any education after lower secondary education and that the number of respondents that left the course was remarkably small (only 12% of all the respondents). At the same time, it appeared that two thirds of those interviewed had found a job once the training was concluded, the majority of which stated that it was a steady job, which they still held at the time of questioning. Those that had lost their job in the mean time, had mostly managed to find another job.

[7] Pure work placement schemes, where training is not included by regulation, have been left out. However, the (then running) Community employment scheme in Ireland has been included, given that it does by definition include training and was during the study, one of the major schemes. The focus of the study was on training for the least qualified (ISCED level 2 or less), but this appeared not to be feasible in Greece, since the major schemes there focus on the large group of young unemployed that has mostly finished upper secondary education, but not gained access to university education.

1263

Given these characteristics, and especially the labour market situation of the trainees after the course and the fact that relatively little drop-out occurred, the possibility that the trainee data are somewhat biased cannot be excluded. It could be that those who dropped out of the course were less willing to cooperate either for reasons of not wanting to admit that they left the course prematurely or for reasons that they did not wanted to be reminded of the course (which might also have been the reason for drop-out). There is also the possibility that those who did not obtain a job after finishing the course were less willing to cooperate. Therefore, there might be a bias towards the relatively more successful trainees. This means that the results of the study have to be interpreted with a certain caution, certainly where generalisations are concerned.

A key problem in finding clear relationships between process characteristics, was the fact that the variance in the 'output' and 'outcome' measure was relatively small, given that the number of trainees that left the course before finishing it was very small (both absolute numbers and proportional) and that a relatively large group of former trainees found a job. Nevertheless, it became clear that the background characteristics of the former trainees were not related to either finishing the course nor finding a job. Age, motivation and the duration of previous unemployment made no difference. Nor did there appear to be a significant difference between those that finished the course and those that did not with respect to finding a job.

Programme characteristics influencing drop-out

Five course characteristics appeared to influence drop-out (that is leaving the training early):

1. the design of the practical training; this influenced drop-out slightly according to its approximation of work practice. The closer practical training was to real work practice, the higher the chance that a trainee would not finish the course, a finding which appears to be in line with the assumption concerning the 'pull impact' of providing practical training within an enterprise (Section 3.1). It also appeared to be in line with the fact that finding a job was the major reason for leaving the course before its conclusion. Whether, in the long run, the jobs found will be steady, full-time jobs, or temporary insecure jobs, could not be investigated. For this a longitudinal design running over a longer period is needed;

2. the flexibility of the curriculum; a distinction was made between flexible and non-flexible modularisation, the former providing trainees with optional modules and the opportunity of setting their own learning pace and sequence. The likelihood of drop-out appeared to increase with an increase in the flexibility of the curriculum. At first sight this seems to be at odds with newly-advocated instructional principles, where trainees' own responsibility for their own learning process is emphasised. However, several scholars have indicated that adults' motivation for learning is essentially 'situated' in the sense that social contacts and learning in a group are important for them (Boshier and Collins 1985). This 'motivation', is lost in highly individualised learning environments. It has also been stated that individualised learning, e.g. by means of modularization, requires 'learning capacities' in terms of being able to plan and steer one's own learning process. These capacities might not have been developed or have been lost by those having acquired little previous education or those having left the education system at an early stage (Brandsma 1994). From research into modularisation it is known that too much flexibility – in terms of individual planning and pace – might have adverse effects on learning achievements (Harms 1995);

3. the way in which job search training was provided; there appeared to be a significant relationship between dropout and the provision of job search training. However, this relation was difficult to interpret. In general, it seemed that the provision, or lack of, job search training will influence drop-out (the likelihood of drop-out increasing with the provision of job search training), but the relationship was less clear in

terms of the stage at which this training was provided. It seemed that job search training towards the end of the course increased the chance that the course was not concluded;

4. the 'selectivity' of the training organisation at enrolment; this also had an influence on drop-out, though the relationship is weak (modest significance). The less selective a training organisation, the bigger the likelihood of drop-out. This would indicate that it could be 'profitable' for training organisations to 'cream';

5. the provision of guidance and counselling; an adverse, and unexpected, relationship appeared, with the chance of dropout seeming to increase if guidance and counselling (in general) was provided. This rather surprising result could indicate that guidance and counselling does not only help trainees to finish the course, but might also contribute to an (early) acknowledgement that the course a specific trainee enrolled in, was not the most suitable for that particular trainee. However, looking at the particular stage in which guidance and counselling was provided it appeared, on the one hand, that if less guidance and counselling was provided during the enrolment stage, the likelihood of dropout increased. On the other hand, the the likelihood of drop-out also increased with an increase in guidance and counselling provided during transition to the labour market. Guidance and counselling during the enrolment stage seems to corroborate the 'early acknowledgement' assumption. Guidance and counselling provided during the transition stage does not seem to fit with this. However, it is quite possible that those who reached that stage of the training are, to a certain extent, 'pushed' out of the training, in the sense that they obtain help in finding a job and that the fact that a job is found is the reason that they leave the training.

Process characteristics influencing the outcomes

In line with expectations, it appeared that the more selective the training organisation was in enrolling trainees, the more successful it was in terms of the number of former trainees finding a job. This was certainly so if, in addition to the general eligibility criteria, additional criteria and an entry test were being applied.

Questions were asked with regard to the type of guidance and counselling provided and the stage at which guidance and counselling is provided. Whether guidance and counselling was provided did not make a difference. However, how guidance and counselling was provided, at which stage and on what topics, did appear to have impact. It appeared that guidance and counselling during the enrolment stage has an influence on the chance of finding a job, but not a linear one. The same holds for guidance and counselling during the course and during the transition stage. There appeared to be an optimum level between little guidance and counselling and too much guidance and counselling, though it was difficult to state exactly where the optimum lies. Providing little guidance and counselling seemed to decrease the chances of finding a job, while 'too much' guidance and counselling seemed to have the same effect. However, increased guidance and counselling during practical training (within an enterprise) improved the chances of getting a job.

It also appeared that whether or not guidance and counselling on personal (welfare) issues is provided has an impact. If provided, it seems to increase the chances of finding a job, especially if provided by specialised staff (that is, counsellors employed by the training organisation or trainers specifically assigned to this task). In addition to this, providing guidance with regard to other or further training enhanced finding a job as well, though the particular direction of the relationship between the two variables is not fully clear. Focussing guidance during the practical training period or work placement, on either solving particular problems (e.g. problems with colleagues or problems of fitting in) and/or technical advice on work related tasks and problems, also enhanced the chances of finding a job.

Where flexibility of training had an impact on drop-out, the relationship with the chances

of finding a job was more complicated. Modularisation per se does not influence the chances of finding a job; whether the modular structure of the training is flexible or non-flexible made no difference. However, it appeared that the extent of individualisation of the training – in terms of whether the duration is fixed or dependent on the trainees' capacities and learning pace – did make a difference. Participating in a training course of fixed duration seems to enhance the chances of finding a job. It also appeared that drafting individual training plans at the start at the start of the course did not have an impact either, but here it is necessary to indicate that developing individualised training plans at the start of the course (or before) did not occur much (mainly in the UK and Ireland, though it has been stated that some individual agreements occur in Greece as well, though these are not formalised).

Does practical training prove to be a vehicle for getting into a job? It was presumed that practical training provided within an enterprise might help trainees into a job. At the same time, the 'practical nearness' of the training appeared to 'pull' trainees out of the training. As expected, it was not as much the issue whether or not practical training is provided that made a difference, but the way in which it was delivered. The closer to the reality of the work practice, the greater the chances of finding a job. In this respect, providing trainees with a practical training period or work placement in an enterprise provides them with more opportunities to find a job, but with the paradoxical effect that it also increases the likelihood of drop-out.

Whether or not job search or job search training is included appeared to make a difference as well. It became clear that job search training provided towards the end of the course increases the chances of finding a job, while job search training provided throughout the course actually seemed to decrease the chances of finding a job.

What final conclusions can be drawn from these results? Among the trainees that responded to the survey, there is a low percentage of drop-out. Also, the number of trainees that found a (steady) job is high, 'staying on' at the employer where the practical training took place, being the most important channel for getting a job. There are, however, differences between countries in this respect, which seem to relate to the extent of formalisation of the labour market, especially the role of the employment service. In countries with a strong and institutionalised employment service (e.g. Norway), the agent has a more important role in getting former trainees into work than in countries where the employment service is not so strong (e.g. the UK). Both in terms of output and outcome, training courses seem to be successful. The question, of course, is what and how did these courses contribute to the labour market position of individual trainees.

If one looks at the extent to which former trainees think that the course was necessary for getting the job they obtained, it appears that nearly half of the trainees think that this is not the case, while slightly fewer are convinced that the course was necessary. Slightly over a quarter of the trainees are convinced that the job is (absolutely) not what they have been trained for (judged on level and content). On the other hand, if one looks at the course characteristics that seem to contribute to either output or outcome, there are process characteristics that do make a difference. The roles of practical training and job search training are particularly interesting. The closer practical training is to the reality of working life and the more job search training is situated at the end of the course, the greater the chances of finding a job. There is a potentially cynical interpretation of these results, in the sense that these two process variables also influenced drop-out. However, there is a (high) probability that the drop-out reported in the survey are those that left the course towards the end and not the early ones (more or less corroborated by the indications from former trainees on the time spent in the training course). In this respect the conclusion concern drop-out during the transition stage. Whether or not this should lead to the conclusion that training as makes no difference to dropping out or staying in is, however, questionable. Apart from the role of practical training and job search training, there is also the influence

1766

of the amount of flexibility and the guidance and counselling. In consequence it would be interesting to gain more understanding of what might cause early drop-out.

3.3.3 Possible implications of the findings

Effectiveness research into vocational training, as performed here, is still rather underdeveloped. In addition to their recommendation of further research into the causes of disadvantage in the labour market, with special reference to the accessibility of labour market programmes for particular target groups, Nicaise and Bollens (1998) point out that the question 'why' something is effective has been little addressed and needs specific attention. From a policy point of view this is an important question, if not the most important question. At the same time it is often one of the more difficult questions to answer. On the one hand, experience of effectiveness research in initial vocational education and training in the Netherlands has shown that it is quite difficult to find specific process characteristics that influence the effectiveness of this type of vocational training and that what does seem to matter varies substantially between specific vocational programmes (cf. Van Batenburg 1995; Brandsma 1999). This might indicate the need for more differentiated effectiveness models that can capture the specific differences between programmes. On the other hand, there are indications, both from effectiveness research in primary education (Doolaard 1998) and some (Norwegian) studies concerning labour market schemes, that effectiveness can change over time (decline, increase) and that changes in effectiveness are not necessarily caused by changes in effectiveness-enhancing process characteristics. To state it more bluntly: once effective does not mean always effective.

Brandsma et al. (1999) state, on the basis of Norwegian evaluation studies, that, in the short run, participants in labour market training have a higher potential for employment than non-participants and that labour market training is more effective than work placement only, with the combination of training and work being the most effective. However, they also conclude that there are major differences in effects, not only between programmes, but also for one given programme if measured at different points in time. Moreover, studies with regard to long-term effects of labour market programmes are inconclusive and sometimes contradictory.

Cynics might conclude that this indicates that it is not very useful to try to detect what causes the difference in effectiveness between training programmes. This is supplemented by the findings of Pedersen and Møller which seem to indicate that the effectiveness of labour market oriented training might be more dependent on the general unemployment situation, than on the process characteristics (or the 'quality') of training. While this is probably true, it does not imply that any additional contribution from the training process itself should therefore be discarded.

It cannot be denied that the 'sample' of former trainees of labour market training schemes is somewhat biased, given that most found a job and a relatively small number dropped out. There are, however, other traits of the trainee sample that pose more fundamental questions; first, the accessibility of training provisions for long-term unemployed and, second, whether or not, and to what extent, the "real long-term unemployed" are reached by labour market oriented training measures. From the study it became clear that training organisations do 'cream'; that is, they try to assess informally the chances of a trainee finishing the course (or even finding a job afterwards). This tendency is all the more strong if the funding for the training programme or the training provider is based on output-related funding (cf. Felstead 1998).

In addition to this, it was clear that, in most cases, eligibility criteria were at stake, not only setting conditions in terms of previous unemployment duration, but also with regard to the actual unemployment situation or labour market status. With some exceptions, training was made available mainly for those registered as unemployed or for the remunerated unemployed. There are some (though relatively weak) indications that motivational

issues might have led to self-selection processes, which excluded certain groups of unemployed. Motivation is an important factor in distinguishing between participation and non-participation. Investment in training is risky, given the uncertainty of the returns participation may yield (cf. Brandsma 1997, 1998). Though one can argue that, in many cases, participation in training for the unemployed does not require a monetary investment from participants, since most costs are born by public funding, time devoted to training can be perceived as lost time in terms of finding a job. This is certainly true if the unemployed have the impression that participation in training does not lead anywhere or can even have adverse effects (as has been proven in some studies; cf. Anderson et al. 1993).

Moreover, training often is not the first priority for the long-term unemployed. In the short term, they may perceive direct employment as the best strategy for getting back into the labour process, training being only a postponement of gainful employment or even a barrier to it. Other, psychological barriers, such as fear of failure, a negative self-image or fatalism, may also demotivate unemployed people in relation to training. If the unemployed have already participated in training without realising their (high) expectations, there is a chance that they will perceive this as a personal failure or as a reinforcement of the belief that training does not pay, reducing their motivation to participate in further training. Though it is difficult to say to what extent motivational issues and self-selection have affected enrolment in training programmes and courses included in this study, it became clear that one of the 'learning effects' frequently mentioned (though perhaps not explicitly intended by the courses) is growth in self-esteem and self-confidence. On the other hand, trainee motivation was an important, if not the most important, criterion in the recruitment and selection processes prior to enrolment.

What became clear from the study is that some sort of enrolment selection, of a more or less rigorous form, takes place and that the expected success of candidates, in terms of finishing the course or finding a job or both, plays a role in this selection process (sometimes by means of various tests to 'measure' the learning capabilities of candidates, but more by 'subjective assessment' of those deciding on enrolment). Some training organisations are very explicit and open on this issue, referring to the need to be selective given the output-related funding regime they are subject to or the specific relationships with (local) employers, which does not allow for 'failure' (or in other words, forces them to maximise their credit-worthiness; cf. Nicaise and Bollens 1998). In this sense, too strong an emphasis on effectiveness in terms of realising set, quantitative targets, could, in the long-term, prove to be counter productive. As has been argued before, it is difficult to decide whether selection in order to optimise the match between trainees and their motivation, capacities and preferences and course content and level, should be judged as wrong per se. Mismatches at this level might lead to a reduction in motivation, early drop-out and discouragement or even reinforcement of disbelief in the benefits of training. However, if selection does result in systematically pushing out the least advantaged, the question is whether this is not an undesirable societal effect (certainly in the long run). Nicaise and Bollens (1998) state in this respect:

> 'Some state that we simply have to learn to live with the trade-off between effectiveness and equity, arguing that it makes no sense to operate an adverse selection system and only provide training to the poorer candidates.'

This might be considered a rather cynical conclusion, certainly if alternatives tailored to, and really reaching, the bottom end of the labour market are lacking. Even though cynical, this statement does raise the issue of effectiveness of training in terms of reaching the intended target groups and getting them back into work. But it also raises the more general issue of whether training does pay off. At the individual level, one can, to a certain extent, answer this question affirmatively. Looking at the results of this particular study, it appears that a large percentage of the former trainees have found a job, with well

1263

over three thirds still holding the job at the time they were questioned. However, less than half of the former trainees are convinced that training was necessary in order to obtain the particular job, and, according to trainee opinion, there is a certain mismatch between the training received and the job obtained.

Does training pay off at a more aggregated level, that is the level of society? It is much less easy to answer this affirmatively. First of all, we have to acknowledge that little is known about the macro-economic effects of investment in training for the (long-term) unemployed. But the macro-economic effects were not the focus of this study either. There are, however, indications that the macro-economic effects of labour market measures for the unemployed are less convincing than the micro-effects mentioned earlier (dead weight and substitution).

If training cannot create jobs, what are the possible policy consequences? The economic upswing in various European countries during the first half of this decade has resulted in the reduction of unemployment even among those considered long-term unemployed. But what if economic growth does not keep its present pace or even turns into a recession? Will this mean that those who have returned to employment after training are the first to be hit by unemployment again? This will depend on various factors such as whether the first job obtained was a steady job or not, whether those former trainees who lost their first job, obtained another job and the characteristics of this job. There are more general factors such as the stability of both the economic sector and the enterprise in which former trainees are employed, as well as the overall vulnerability of the national economy to global economic cycles.

It appears that two basic lines of reasoning can be distinguished in this matter. On the one hand, various (economic) scholars state that, due to the demographic development of ageing of the work force, it will be necessary to get unemployed and 'inactive' labour back into employment – preferably after sufficient training – in order to meet the demand for labour. If this demand is not met, economic decline will occur, not so much as a result of economic downswings, but due to the fact that the labour market cannot match supply and demand. On the other hand, there are (economic) researchers who foresee that those with the most vulnerable labour market position (the least qualified, older workers and workers with an unstable working career) are the first to be hit by increasing unemployment rates. Some of the most cynical among them point out that, due to the lack of quality of the training that has been provided to the former long-term unemployed, these persons tend to end up in the vicious recycling of qualifications (cf. Thijssen 1997). With this (and with the quality of training) they mean that the training provided is too much focussed on getting people back into employment as quickly as possible, without taking into account the long-term employment perspectives of the training provided. In their opinion, the level of training is too low and the scope of the training is too narrow, often focussed too much (or 'customised' too much) towards specific vacancies that exist within certain enterprises or that are expected too arise in the short-term.

In principle, both lines of reasoning once more underline the dilemma to be faced in designing labour market measures for the long-term unemployed, though in the case of demographic arguments it will depend on the particular demand for labour to be met. If labour market measures intend to promote the reentry of the long-term unemployed, and especially the least qualified among them, in gainful employment with the prospect of employment in the long run, and even the prospect of continuing training in the context of employment, the initial investment needed for training these unemployed should be substantial. At the same time, as is seen in various literature sources, the least qualified long-term unemployed often are confronted with multiple problems and do not (necessarily) give priority to training.

Notwithstanding the potential power of training as a labour market measure and the great attention training for the unemployed receives in various European countries, Hasan and Tuijnman (1997) conclude that:

1269

'The learning opportunities open to the unemployed and the disadvantaged groups in the society are far limited in scope and quality than those available to the employed group.'

3.4 Training of low-skilled workers

3.4.1 Who receives training?

Work is an important source for learning in the sense that it is often an important – if not major – stimulus for the motivation to participate in training, and also a major financial source. Hasan and Tuijnman (1997) stipulate that, overall, the role of the government in participation in adult education is relatively small and that 40-60% of adult training is financially supported by enterprises. At the same time, a large percentage of adult training (estimated to be 70 to 90% of the training undertaken by men) is work-related. However, the likelihood of receiving training is not equally distributed among workers and the inequality between workers in this respect appears to be a very persistent phenomenon (Brandsma et al 1995; European Commission 1999; Hasan and Tuijnman 1997; Houtkoop 1985; Newskills 1999; Tuijnman 1989).

Results from the Newskills project (1999) indicate that there is relatively little difference between men and women with regard to the question of who receives additional training within the enterprise. However, given that the labour participation rate among men is higher than among women, the majority of training concerns men. Furthermore, it appears that younger workers receive more training than older workers, better-educated workers have a greater chance of receiving training and full-time employees receive more training than part-time employees – findings which are corroborated by various other studies. The results of the first European Continuing Training Survey, for instance, reveal that those employed as craft and trade workers, operatives or in elementary occupations, participate less in training courses than those employed in higher level occupations. This, however, only concerns formal training courses and not less formal types of training, like training on the job or quality circles. Differences between men and women appear to be small (European Commission 1999).

IALS data reveal, however, that there still is a gender bias in the participation in training. Women are less likely to participate in job-related training and are also more likely to experience lower training intensities than men (Leuven 1997). If the focus is taken away from job-related training only, participation rates of men and women appear to be quite similar, but pattern, type and conditions of participation show a considerable gap between the genders, with women having to overcome more difficulties than men (Valdivielso Gomez 1997). At the same time, data from the IALS data base strongly indicate that the chance on participation in training sharply declines for older workers (over 55 years of age) (Van der Kamp and Scheeren 1997).

Overall, participation in training, be it work-related or other training, shows the following pattern:

- workers in small enterprises have significantly less training opportunities than workers in large enterprises;
- older workers have less chance of participation in training than younger workers (with training opportunities diminishing after the age of 45);
- training opportunities and participation in training increase with the prior level of educational attainment (with the low-skilled, defined as ISCED 0-2, having the least chance of participation);
- workers with a less stable labour relationship with an employer (part-time workers, homeworkers) have less chance of participation in training.

3.4.2 New training models

If the aim of learning, in particular lifelong learning, is the inclusion of the least qualified, or low- and unskilled, into gainful employment and into the learning economy, this has consequences for education and training

policies as well as for vocational education and training systems. VET policies should take into account that the low-skilled might need considerable guidance and support in order to start learning. Rigid divisions between unemployment benefit, training and working are not supportive in this respect. The unemployed often only want one thing and that is a job. Creating opportunities through which unemployed can combine work with motivating training and learning processes, or alternate periods of work with training and learning, might be more helpful than obligatory incentives (like withholding their unemployment benefit) to get them back into work (e.g. the USA). There are various examples of wage subsidy or work placement schemes, but these seem to focus on low-skilled jobs with little or no learning possibilities, often leading to the vicious circle of being employed for a time and returning back to unemployment afterwards.

The training-system as such, should not only provide the basis for lifelong learning for all, but also contribute to the development of the competences of that part of the workforce which presently is perceived as being unskilled. Current training-structures and institutions have to open up and become more flexible, not only in terms of structure and content of curricula and didactical approaches, but also in terms of increasing their own innovative capacity, taking on board innovations such as portfolios and assessment of prior acquired competencies.

Assessment of prior acquired competences (in the UK known as assessment of prior learning) might be a helpful tool for stimulating the learning among the low-skilled. The basic rationale behind assessment of prior acquired competences is that the assessment is independent from the way in which something is learned and that it also takes into account what is learned informally (cf. Klarus 1998). Definitions of 'low-skilled' are mostly based on official educational attainment (like the one given earlier), not being able to take into account what might have been learned outside the classroom (or outside a CVT course). Also, when hiring staff most employers often base their decisions on educational attainment and/or work experience. These are only global indicators, but time and resources are mostly unavailable for assessment of the competences of potential workers in more detail (except in the case of potential staff for highly qualified jobs).

Providing opportunities for assessment of prior acquired competences has various advantages both from an employer's and from an employee's perspective. For employees, it can define and show the competences acquired, whether through formal learning or informal learning. The results of the assessment can, for instance, be included in a personal portfolio, which can be used during applications, in addition to an application letter or interview. For employers, assessment of prior acquired competences can be one of the tools for competence management, identifying available competences and competence gaps. Assessment of previously acquired competences can contribute to individual learning motivation by showing what has already been learned (indirectly boosting self-esteem) as well as indicating potentially powerful directions for further learning on the basis of what has already been obtained.

A possible disadvantage, however, could be that employed (low-skilled) workers fear that the results of such an assessment might get to their employer as well, providing a basis for a judgement of the worker. Experiences with the French 'Bilan de Competence' show that this is not a theoretical disadvantage, but a real drawback. In this respect it is necessary to install sufficient rules and procedures to protect confidentiality (Brandsma 1998). In addition to this, it appears that employers object to assessment of prior acquired competences if it results in recognition of these competencies with wage consequences. Effective implementation of this tool therefore requires that both employers and employees gain from its application (Thomas and Frietman 1998).

Another possible tool is the so-called job rotation scheme. Such schemes as presently implemented in Denmark and some parts of Germany (on an experimental basis) are based on the principle that a worker going off on training, is replaced by an unemployed

worker, who, if necessary, receives training in order to be able to perform the work. These schemes provide the possibility of combining training and work, which appear to be more motivational than pure training without a clear perspective of obtaining work afterwards. If the training of the employed worker aims at, and results in, upward mobility within the enterprise, this might provide a job-opening for the unemployed worker. However, there are also disadvantages. If the trained worker returns to his or her job after training has been concluded, this will most likely mean that the unemployed replacer returns to unemployment if no other job-openings are available inside or outside the enterprise. The extent to which the unemployed worker will be able to find another job, is partly dependent on the training received in the context of the replacement scheme. There are examples from the Danish job rotation scheme which show that the unemployed person received only relatively short training that did not fully match the needs of the enterprise[8]. This makes some employers reluctant to continue participation in such schemes. At the same time, providing more job specific training might be more appropriate from the perspective of the enterprise, but not from the perspective of the unemployed. If training is too job specific, this might be of little help for the unemployed replacing worker at the moment that he or she has to search for another job once the temporary contract has been teminated. In this respect there is a dilemma between providing training sufficiently relevant for a particular job and training sufficiently broad to strengthen the labour market position of the unemployed (Brandsma 1998).

4. Concluding remarks and discussion

The labour market position of the low-skilled is relatively weak and it seems that increasing their skill levels might be the only way to strengthen this position. At the same time it is clear that the low-skilled have a substantially lesser chance of participating in training, at least in work-based or job-related training. With the latter becoming increasingly important, this poses particular challenges for designing training policies to overcome the deadlock.

Various European countries have attempted to develop policies aimed at enhancing lifelong learning. Debates on arrangements and incentives to increase the investment in training are on many a political agenda and various countries have seen national committees or national action programmes established during recent years, with the aim of enhancing lifelong learning, if not actually establishing a 'system' for lifelong learning (examples are: the UK, Norway, Iceland, Finland, Sweden the Netherlands and recently also France). In the terms of the European Commission's white paper, the aim is to establish a 'learning society'. In these attempts a strong emphasis is given to increasing the employability of individual workers. What sometimes makes the potential effectiveness of such strategies (slightly) doubtful, is the fact that core concepts are not clearly defined. Employability, for example, is often equated with employment in the sense that it is assumed that employability will result in employment. However, this will depend on the strategy used to enhance employability and with that employment. Basically two strategies can be distinguished (Thijssen 1996):

a) enhancing job search and job acquisition skills, focussing on the process of getting a job;

b) enhancing work or occupational skills, focussing on the skills needed for performing a job well.

In a cynical way it could be said that the first strategy aims at learning a 'trick', while the second strategy aims at qualifying people in order to get an adequate and more or less secure start in the labour market. In terms of the learning needed or provided, both strategies have profoundly different implications as well.

[8] The training provided is AMU-courses from the standard offer of the AMU-centres. It concerns publicly funded training that is not tailored towards specific enterprise needs.

1272

Learning, in the context of lifelong learning, means a permanent process of learning and of 'learning to learn'. Both 'learning' and 'learning to learn' can have different meanings (Thijssen, 1997):

- learning (to learn) in the sense of acquiring a set of meta-cognitive skills (e.g. problem solving, applying knowledge and skills in new situation, information processing, etc.);
- learning (to learn) in the sense of acquiring a positive attitude towards learning and continuing to learn;
- learning (to learn) in the sense of acquiring a broad set of occupational skills and competencies applicable in a broad occupational domain (as contrasted to job-specific skills);
- learning (to learn) in the sense of acquiring 'coping skills' or 'life skills' as defined within a new OECD project, focussing on the type of skills people need, in order to cope with the modern (information) society (including basic 'computeracy' skills).

It is clear that the last of these seems more closely related to the job search/find strategy of employability, while the third meaning of learning (to learn) is more closely related to the qualifying strategy of employability, with the first and second meanings being more or less preconditions for lifelong learning in the sense of a continuous process of personal development. What makes it all the more important to be crystal clear about which learning is intended, is the expectation that independent and self-directed learning will get greater emphasis (Hasan and Tuijnman 1997). Benefiting from more independent and self-directed learning will require 'learning skills' and the capacity to learn in ways other than traditional classroom teaching. What is presently considered as being effective learning (in the context of learning organisations) is characterised by (cf. Brown 1997; Brown and Keep 1998):

- reflection: the need for a culture inside organisations that values learning and development can be supported by an emphasis on reflection;
- development of thinking skills: the importance of developing learning to learn skills, thinking skills to manage and process information and problem-solving skills is presumed to be crucial;
- development of learner independence: this refers, in relation to the previous, to the need to make learners more aware of their learning processes, as well as making them the controllers of their own learning processes and owner of their own skills, competencies and knowledge;
- teamwork and collaborative learning: if responsibilities are increasingly delegated to workers, this will require better cooperation between workers, which puts new demands on the interpersonal skills of workers and also on their ability to learn collaboratively;
- learning and assessment processes have to be linked: there should be a synergy between the way in which learning takes place and the way in which the outcomes are assessed; too detailed assessment standards, that encourage students as well as assessors to focus on meeting these standards and not on the (de)construction of the learning process behind this, would be counter-productive;
- developing a substantive knowledge base: learners should have the opportunity to develop a substantive knowledge base in order to be able to achieve broad occupational competence (with the latter meaning that learners should really acquire occupational competence applicable in various situations, instead of learning 'tricks' that will get them into a job, but leave them with 'empty hands' once this job disappears).

Learning as presently perceived will be less formalised and rely to a greater extent on self-supported and self-steered learning. In this sense there is a shift away from more traditional school- or classroom based training

1275

(courses) towards informal learning. For individuals to fully benefit from the learning opportunities, this requires a particular learning attitude, which previously has not been incorporated in traditional education and training. In addition, it requires a particular social and cultural capital, that often has not been acquired through education, but through other channels (e.g. family, peer groups). Low-skilled workers in the working age are with respect to this in a disadvantaged situation. Often they have left education, because the means to continue education were lacking, but also because learning was not attractive for them. In order to provide them with opportunities to benefit from the learning options offered, it will be necessary to develop the learning attitude and cultural capital needed.

The fact that work-based training is becoming increasingly important as well, might have (negative) implications for the low-skilled. On the one hand, work-based learning has long been considered as one of the best ways of delivering vocational training. However, the effectiveness of work-based learning has been scrutinised over recent years. Though work-based learning, or on-the-job training, is still considered important model within vocational education and training, it is more and more acknowledged that not all workplaces are effective learning places and that effective work-based learning needs to build upon well-designed learning and instructional models (Raizen 1994). It is in this context that concepts like 'cognitive apprenticeships', 'complex learning situations', 'communities of practice' and 'learner independence' have been developed as alternatives to the more traditional models of either school-based or work-based learning (cf. Attwell and Brown 1998). At the same time, the currently evolving learning society and learning economy is highly work-based. Unskilled, simple jobs have neither high learning potential nor do they stimulate learning outside the workplace. In order to prevent low-skilled workers (whether employed or unemployed) being faced with 'learning exclusion' (on top of social exclusion for those that have become marginalised in the labour market), VET-policies should focus on strategies and tools that can enhance the learning of the low-skilled.

Thus far, the focus of this chapter has been on the options for increasing the skill level of low-skilled workers in order to strengthen and improve their labour market situation. However, Freeman and Gottschalk (1998) indicate that such 'supply-side' policies might (in the short run) be less effective than hoped and, at the same time, quite costly. They argue that it might take a very large investment in skills and skill increase over a long period, to restore the loss in wage American low-skilled workers have experienced due to their low level of skills (and productivity) (cf. Nickell 1998). Their plea is to reconsider 'demand-side' policies, focusing on the increase of demand for less skilled workers, as an alternative for supply-side policies. The studies presented in their book show that such demand-side policies (like: lowering the costs of employing low-skilled workers, creating public jobs, changing pay modes and changing employment regulations) can increase employment opportunities for the low-skilled, but only rather modestly contribute to the increase of wage and skill levels of the low-skilled covered by these policies. Freeman and Gottschalk therefore conclude that such demand-side policies as implemented in the past, do not offer magic solutions for the problems low-skilled workers (in the US) are facing. However, they also state:

> '... several policies that singly contribute only marginally to raising employment or earnings of the low-paid can have a larger effect in combination'.

Improving the labour market position and employment perspectives of the low-skilled is necessary if European countries want to maintain their economic competitiveness and prevent marginalisation and exclusion of a still substantial proportion of their labour force. Taking the conclusion of Freeman and Gottschalk to heart, it seems that policies aimed at increasing the skill level of the least qualified as well as their employment prospects, should not put all the eggs in one basket. Achieving such aims appears to require carefully designed measures, combining the advantages of both supply-side and demand-side policies and geared towards the particular situation of different target groups.

Bibliography

Althauser R.P., Kallenberg A.L., 1981. Firm, occupations and the structure of labor markets: a conceptual analysis. *In:* Berg I., ed. *Sociological perspectives on labor markets.* New York: Academic Press.

Andersson K., Burkhauser R., Raymond J., 1993. The effect of creaming on placement rates under the Job Training Partnership Act. *Industrial and Labour Relations Review*, **46** (4), July, pp. 613-624.

Attwell G., Brown A., 1998. *Requirements and provisions for the acquisition of skills and qualifications for Lifelong learning: trends and challenges across Europe.* Report for Cedefop.

Batenburg Th. van, 1995. *Determinanten van schoolloopbanen in het MBO (Determinants of school careers in secondary vocational education).* Groningen: Gion.

Bavinck S., Burgh Y. van der, 1994. *Effectiviteit van het scholingsinstrumentarium. Onderzoek naar de Centra Vakopleiding, KRS, KRA-WBR en de Sollicitatieclub in de regio Noord- en Midden-Limburg* (Effectiveness of training instruments). Leiden: Research voor Beleid.

Béduwé C., Espinasse J., Becker K., Rutjes H., 1998. Certificates, skills and job markets in Europe. *In:* Werquin P., Breen R., Planas J., eds. *Youth transitions in Europe; Theories and evidence.* Marseille: CEREQ, Documents Séminaires (number 120, March 1998).

Beek K. van, 1993. *To be hired or not to be hired, the employer decides. Relative chances of unemployed job-seekers on the Dutch labor market.* Amsterdam: Universiteit van Amsterdam.

Bock B., Hövels B., 1991. *Een kwantitatief beeld van de groep voortijdig schoolverlaters.* (A qualitative overview of the group of early school leavers). Nijmegen: Instituut voor Toegepaste Sociale Wetenschappen.

Boer P. den, 1995. *Scholing van laag opgeleide volwassenen, (Training of poorly educated adults)* Groningen: RION.

Bolhuis S., 1999. *Levenslang leren en het leren op school (Lifelong learning and the learning at school).* Paper gepresenteerd op het symposium 'Een leven lang leren' vanuit perspectief (Paper presented at the symposium "Lifelong learning with perspective), Onderwijs Research Dagen, 20-21 mei 1999, Nijmegen.

Boshier R., Collins J.B., 1985. The Houle typology after twenty-one years: a large-scale empirical test. *Adult Education Quarterly*, **35**, pp. 113-130.

Brandsma J., 1993. *Beroepsprofiel- en leerplanontwikkeling; de koninklijke weg als naïef traject? (Developing Occupational Profiles and Vocational Curricula: the 'Royal' Method as a Naïve Route (doctoral thesis).* Enschede: University of Twente.

Brandsma J., 1994. *De werking van de volwasseneneducatiemarkt* (The functioning of adult education and training markets) Enschede: OCTO.

Brandsma J., 1997. Learning investment equal to capital investment? Increasing the investment in human resources by treating investment in learning and capital investment on an equal basis: (im)possibilities and challenges. *Journal for Human Resource Costing and Accounting*, **2** (2), pp.31-51.

Brandsma J., ed. 1998. *(On)mogelijkheden en perspectieven van een leven lang leren* ((Im)possibilities and perspectives on lifelong learning. Report commissioned by the project staff 'lifelong learning of the Ministry of Education, Culture and Science' The Hague: Ministry of Education, Culture and Science.

Brandsma J., 1999. *Een leven lang leren vanuit een arbeidssociologisch perspectief. (Lifelong learning from an occupational sociological perspective)* Paper gepresenteerd op het symposium 'Een leven lang leren' vanuit perspectief (Paper presented at the symposium "Lifelong learning with perspective), Onderwijs Research Dagen, 20-21 mei 1999, Nijmegen.

1275

Brandsma J., Kessler F., Münch J., 1995. *Continuing vocational training in Europe: state of the art and perspectives.* (La formation professionelle continue en Europe; situation actuelle et perspectives d'avenir / Berufliche Weiterbildung in Europa; Stand und Perspectiven). Utrecht: Lemma.

Brandsma J. i.s.m., Vande Poele L., Oosterlinck T., Pedersen F., Skinningsrud T., Pedersen P., Eraut M., Casey T., Michaelides P., 1999. *The effectiveness of labour market oriented training for the long-term unemployed. Final report of the TSER project.* Brussels: European Commission.

Brown A., 1997. A dynamic model of occupational identity formation. *In:* Brown A., ed., *Promoting vocational education and training: European perspectives.* Tampere: University of Tampere Press.

Brown A , Keep E., 1998. *Lifequal project: Effective processes for the acquisition of qualifications for lifelong leraning – with the focus on processes of school to work transition through vocational education and training. English National Report.* Warwick: University of Warwick, Institute for Employment Research.

Carnevale A.P., 1991. *America and the new economy. How new competitive standards are radically changing American workplaces.* San Francisco: Jossey-Bass Publishers.

Caroli E., Reenen J. van, 1999. *Skills and organizational change: Evidence from British and French establishments in the 1980s and 1990s.* Institute for Fiscal Studies, Working Paper.

Coopers and Lybrand, 1995. *The Coopers and Lybrand Competitiveness Survey.* London: Coopers and Lybrand.

Doeringer P., Piore M., 1971. *Internal labour markets and manpower analysis.* Boston: D.C.Heath.

Doolaard S., 1998. *Schools in change or schools in chains?. The development of educational effectiveness in a longitudinal perspective.* Enschede: Twente University Press.

European Commission, 1996. *Teaching and learning: towards a learning society.* Brussels: European Commission, White Paper.

European Commission, 1999. *Continuing training in enterprises: facts and figures.* Brussels: European Commission.

European Foundation for the Improvement of Living and Working Conditions, 1998. *New forms of work organisation – Can Europe realise its potential?* Luxembourg: Office for Official Publications of the European Communities.

Felstead A., 1998. *Output related funding in vocational education and training: a discussion paper and case studies.* Thessaloniki: Cedefop (Panorama series).

Freeman R.B., Gottschalk P., eds., 1998. *Generating jobs. How to increase demand for less-skilled workers.* New York: Russell Sage Foundation.

Gallie D., 1991. Patterns of skill change: Upskilling, deskilling or the polarisation of skills? *Work, employment and society,* **5** (3), pp. 319-351.

Green F., Felstead A., Gallie D., 1998. *Changing skill-intensity: An analysis based on job characteristics.* Working Paper.

Hannan D.F., Werquin P., 1999. Education and labour market change: The dynamics of education to work transitions in Europe. Report for the European Commission on behalf of the European Socio-Economic Research Conference, 28-30 April 1999, Brussels.

Hannan D.F., Smyth E., Raffe D., Martin C., Brannen K., Rutjes H., Becker K., Werquin P., 1998. *Education, vocational training and labour market transitions (VTLMT) amongst lower level school leavers in four European countries.* Dublin/Edinburgh/Amsterdam/Marseille: ESRI/CES/DESAN Market Research/CEREQ.

Harms G.J., 1995. *Effecten van modulair beroepsonderwijs bij leerlingen: motivatie en rendement.* (Effects of modular education: motivation and output). Groningen: GION (proefschrift).

Hasan A., Tuijnman A., 1997. Adult education participation: A policy overview. *In:* Bélanger P., Tuijnman A., eds. *New patterns of adult learning: A six-country comparative study.* London/Paris: Pergamon/Unesco Institute for Education.

1276

Houtkoop W., 1985. Volwasseneneducatie en de ongelijke verdeling van educatieve kansen (Adult education and the inequal distribution of educational opportunities). *In:* Peschar J.L. (red.), *Onderwijssociologie; een inleiding*. Groningen: Wolters Noordhoff.

Hövels B., 1990. *Het combimodel; voor strategische informatie op het traject van beroepspraktijk naar beroepsopleiding*. Nijmegen: Instituut voor Toegepaste Sociale Wetenschappen.

Hövels B., 1993. *Startkwalificatie tussen individu en arbeidsmarkt*. (Starting qualification between individual and labour market). Bunnik: A&O Adviescentrum Opleidingsvraagstukken.

Hövels B., 1999. Bringing the professional back in. *In:* Nijhof W.J., Brandsma J., eds. *Bridging the skills gap between work and education*. Dordrecht: Kluwer Academic Publishers.

Hövels B., Berg J. van den, 1992. *Beroepsonderwijs in de grafische industrie: ontwikkelingen en responsiviteit*. (Vocational education and training in the graphic industry) Nijmegen: Instituut voor Toegepaste Sociale Wetenschappen.

Hövels B, Dijk C. van, 1989. *Beroepspraktijk en opleidingen van electronici. Een onderzoek naar intredefunkties, beroepsloopbanen en de aansluiting tussen opleiding en beroepspraktijk van electronici met MTS en HTS opleiding*. (Occupational practice and training of electrotechniciens). Den Haag: COB/SER.

Huygen F., 1989. *De kwalitatieve structuur van de werkgelegenheid in Nederland deel III. Bevolking in loondienst en functiestructuur 1977-1985* (The qualitative structure of the employment in the Netherlands, part III. Employed labour force and job structure 1977-1985). Den Haag: OSA.

Kamp M. van der, Scheeren J., 1997. New trajectories of learning across the lifespan. *In:* Bélanger P., Tuijnman A., eds. *New patterns of adult learning: A six-country comparative study*. London/Paris: Pergamon/Unesco Institute for Education.

Keep E., 1997. 'There's such a thing as society...': some problems with an individual approach to creating a Learning Society. *Journal of Educational Policy*, **12** (6), pp. 457-471.

Keep E., Mayhew K., 1998. Was Ratner Right? Product market and competitive strategies and their links with skills and knowledge. *EPI Economic*.

Kessels J.W.M., 1996. Kennisproductiviteit en het corporate curriculum. *In:* Kessels J.W.M., Smit C.A. (red.), *Kennisproductiviteit. Opleiders in Organisaties. Capita Selecta 26*. Deventer: Kluwer Bedrijfswetenschappen.

Kirsch E., 1999. *Devenir des bas niveaux de qualification: comparaison des situations nationales*. Marseille: CEREQ, mimeo.

Klarus R., 1998. *Competenties erkennen. Een studie naar modellen en procedures voor leerwegonafhankelijke beoordeling van beroepscompetenties*. (Recognising competencies. A study into learning pathway independent assessment of occupational competencies). 's-Hertogenbosch: CINOP.

Koning J. de, Koss H., Verkaik A., 1988. *De arbeidsmarkt-effecten van het centrum voor administratieve vakopleiding van volwassenen* (Labour market effects of the Administrative Vocational Training Centres). Rijswijk: LBA.

Koning J. de, Nes P.J. van, 1990. *Evaluatie van het CBB: bereik en plaatsingseffecten* (Evaluation of the Centres for Vocational Orientation and Preparation). Rotterdam: NEI.

Koning J. de, Zandvliet C.Th., Knol H.W., 1993. *Kosten en baten van het Centrum Vakopleiding, het CBB en de Vrouwenvakschool* (Costs and benefits of the Vocational Training Centres, the Centres for Vocational Orientation and Preparation and the Training Centres for Women). Rotterdam: NEI.

KPMG, 1998. *Leerpunten voor de toekomst van een leven lang leren* (Learning points for the future of lifelong learning). 's-Gravenhage: SDU Publications.

Lee D.J., 1990. Surrogate employment, surrogate labour markets and the development of training policies in the eighties. *In:* Wallace C., Cross M., eds. *Youth in transition: the sociology of youth and youth policy*. London: Falmer Press.

Leuven E., 1997. Gender differences in work-related adult education and training. *In:* Bélanger P., Tuijnman A., eds. *New patterns of adult learning: A six-country comparative study*. London/Paris: Pergamon/Unesco Institute for Education.

Leuven E., Oosterbeek H., Ophem H. van, 1998. *Explaining international differences in male wage inequality by differences in demand and supply of skill.* London: Centre for Economic Performance Discussion Paper, no. 392.

Lundval B-A., Borrás S., 1997. *The globalising learning economy: implications for innovation policy.* Brussels: European Commission, DGXII.

Lutz B., Sengenberger W., 1974. *Arbeitsmarktstrukturen und öffentliche Arbeitsmarktpolitik.* (Labour market structures and public labour market policy). Göttingen: Soziologisches Forschungsinstitut an der Georg-August-Universität.

McIntosh S., 1998. *The demand for post-compulsory education in four European countries.* London: Centre for Economic Performance Discussion Paper, no. 393.

Meesters M.J., 1992. *Loopbanen in het onderwijs en op de arbeidsmarkt. Verticale en horizontale differentiatie in het voortgezet onderwijs; oorzaken en gevolgen voor de arbeidsmarktpositie van Nederlandse jongeren.* (Career patterns in education and the labour market). Nijmegen: Instituut voor Toegepaste Sociale Wetenschappen.

Mulder M., 1999. *Competentieontwikkeling in organisaties: Perspectieven en praktijk.* (Competence development in organisations: Perspectives and practice). Enschede: Universiteit Twente.

Murray A., Steedman H., 1998. *Growing skills in Europe: the changing skill profiles of France, Germany, the Netherlands, Portugal, Sweden and the UK.* London: Centre for Economic Performance Discussion Paper, no. 399.

Newskills, 1999. *Low skills: A problem for Europe.* Brussels: European Commission.

Nicaise I., Bollens J., 1998. Training and employment opportunities for disadvantaged persons. *In:* Cedefop, ed. *Vocational education and training – the european research field.* Luxembourg: EUR-OP (background report volume II).

Nickell S., 1998. The collapse in demand for the unskilled: What can be done? *In:* Freeman R.B., Gottschalk P., eds. *Generating jobs. How to increase demand for less-skilled workers.* New York: Russell Sage Foundation.

OECD, 1996. *Lifelong learning for all.* Paris: OECD.

OECD, 1998. *Human capital investment. An international comparison.* Paris: OECD.

Raizen S.A., 1994. Learning and work: the research base. In: *Vocational Education and Training for youth: towards coherent policy and practice.* Washington/Paris: US Department of Education/OECD pp. 69-114.

Ritzen J.M.M., Stern D., 1991. Introduction and overview. *In:* Stern D., Ritzen J.M.M., eds. *Market failure in training? New economic analysis and evidence on training of adult employees.* Berlin: Springer Verlag.

Robinson P., 1997. *Water under the bridge. Changes in employment in Britain and the OECD.* London: Centre for Economic Performance, Discussion Paper no. 325.

Robinson P., Manacorda M., 1997. *Qualifications and the labour market in Britain 1984-1994: Skill based change in the demand for labour or credentialism?* London: Centre for Economic Performance, Discussion Paper no. 330.

Stern D., Benson C.S., 1991. Firms' propensity to train. *In:* Stern D., Ritzen J.M.M., eds. *Market failure in training? New economic analysis and evidence on training of adult employees.* Berlin: Springer Verlag.

Tessaring M., 1998. *Training for a changing society. A report on current vocational education and training research in Europe.* Cedefop. Luxembourg: EUR-OP.

Thijssen J.G.L., 1996. *Employment versus employability. De flexibiliteit van de hedendaagse werknemers en de samenhang met opleidingsinspanningen.* (Employment versus employability. The flexibility of today's workers and the relation with training investments). Paper Employability Congres, Leiden, Univeristy of Leiden.

Thijssen J.G.L., 1997. *Leren om te overleven. Over personeelsontwikkeling als permanente educatie in een veranderende arbeidsmarkt* (Learning to survive. On personnel development as permanent education in a changing labour market). Utrecht: University of Utrecht.

1273

Thomas E., Frietman J., 1998. *(H)erkenning van elders verworven competenties. EVC als motor voor employability en 'een leven lang leren'.* (Recognition and acknowledgement of prior acquired competencies). Nijmegen: ITS.

Tjepkema S., 1998. Het concept van 'de lerende organisatie' en levenslang leren (The concept of 'the learning organisation' and lifelong learning). *In:* Brandsma J., ed. *(On)mogelijkheden en perspectieven van een leven lang leren* ((Im)possibilities and perspectives for lifelong learning). 's-Gravenhage: SDU Publications.

Tjepkema S., Scheerens J., 1997. *The role of HRD within organizations in creating opportunities for lifelong learning.* Research proposal for the Targeted Socio-Economic Research programme. Enschede: University of Twente.

Tuijnman A.C., 1989. *Recurrent education, earnings, and well-being: A 50-year longitudinal study of a cohort of Swedish men.* Stockholm: Almqvist & Wiskell International.

Tuijnman A.C., 1993. Effecten van volwasseneneducatie: produktiviteit, inkomensongelijkheid en sociale stratificatie. (Effects of adult education: productivity, wage inequality and social stratification). *In:* Kamp M. van der (red.), *Volwasseneneducatie.* Heerlen: Open Universiteit (in press).

Valdivielso Gomez S., 1997. Beyond the walls of the household: Gender and adult education participation. *In:* Bélanger P., Tuijnman A., eds. *New patterns of adult learning: A six-country comparative study.* London/Paris: Pergamon/Unesco Institute for Education.

West A., 1996. *Meeting the costs of general education: new approaches.* Paper delivered at the 'White Paper, Objective 5, Thematic Conference', Brussels, September 26th and 27th, 1996.

1273

Part six:

VET research activities outside the European Union

1250

Research on vocational education and training at the crossroads of transition in Central and Eastern Europe

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Abstract

The following analysis provides an overview of state of affairs in vocational education and training research in eleven countries of Central and Eastern Europe. The report attempts to analyse the responsiveness of the VET research to the major socio-economic challenges occurring in the process of transition. The objective of the study is to identify main research gaps and to bring about better transparency on VET research, its achievements and failures in these countries. The report is a first attempt to map the existing research results in the field of VET in the region, and therefore has an illuminative rather than evaluative character.

The author argues that the VET research in CEE has found itself in the middle of a double reform process, where transition from a state planned to a market economy has been multiplied by the global changes. The VET research has successfully reacted to major challenges of the transformation period. It is, however, argued that there have been certain drawbacks, where national research was not in place to justify the transfer of foreign models and had a somewhat passive role in the reform process in the initial stage of the transition. Nevertheless, the recent years demonstrated the growing maturity of the national research and its increasing importance in the support of the reform process. Although there is still a lack of comprehensive conceptual strategies that embrace different aspects of initial and continuing vocational education and training in the perspective of lifelong learning, the shift from highly fragmented research has been noticed.

The report demonstrates systemic inefficiencies (organisational, institutional, financial) that create obstacles to research development. The hardship of the transition period caused many challenges for the research community, the brain drain not being the least. The paper comes with the set of recommendations for the support of comprehensive multidisciplinary VET research in the priority fields, as well as suggests organisational measures to make the research process more efficient.

1281

Table of contents

1. Introduction 211
1.1 Approach and definition of the scope of the study 211
1.2 Objectives and hypotheses 212
1.3 Methods and sources 213

2. Context and challenges of transition for vocational education and training in CEE 214
2.1 Research and democracy 214
2.2 Recent socio-economic developments 215
2.3 Initial setting and future challenges 221
2.4 Conclusions 223

3. A conceptual framework for the analysis of change in regard to education and training 224

4. Institutional framework, organisation and development of VET research in CEE 226
4.1 Institutional framework of VET research 226
4.2 Financial aspects and coordination of VET research 231
4.3 Role of international activities 236

5. Systems, concepts, requirements, arrangements: what does VET research in CEE enquire into? 244
5.1 Research into systems in the lifelong learning perspective 244
5.1.1 Research on financing of VET 248
5.1.2 CVT and HRD 249
5.1.3 Teaching and learning: a one-off task or a lifelong perspective? 252
5.1.4 Social partnership 254
5.2 Contextual research 255
5.2.1 Employment and unemployment: factors of transition 255
5.2.2 Human capital and social exclusion: the prize and price of transition? 258
5.2.3 Transition from school to working life: transition in transitory societies 261
5.2.4 Labour market requirements and skills mismatch 263
5.2.5 Prognostic research and strategies 265

6. Conclusions and recommendations 270
6.1 Conclusions: shortcomings and 'gaps' 270
6.2 Policy implications 274

References 276

Bibliography 281

Annexes 296
Annex 1: Tables 296
Annex 2: Diagrams of systems of education of eleven CEE countries 298
Annex 3: List of the international institution networks involved in VET 309
Annex 4: List of national institutions and associations involved in VET analysis and policy 314

1292

1. Introduction

1.1 Approach and definition of the scope of the study

This part of Cedefop's research report is a comparative analytical overview of research in Central and Eastern Europe (CEE) in the field of *vocational education and training* (VET). The study covers a wide geographical area of eleven countries: Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. The countries were chosen on the principle of the geopolitical 'commonality' of the region of CEE. All countries in question share a socialist past and are undergoing the reform process from a state-owned to a market oriented economy. All countries, apart from Albania, are candidates for membership in the European Union. All countries are covered by the European Community's Phare assistance programme, and therefore, in this text will be referred to terminologically as Phare countries or partner countries. In spite of the certain degree of similarity, the countries of the CEE region differ greatly, and do so from their very point of departure in the pre-reform period, at which time Slovenia belonged to Yugoslavia, (the most democratic and open of all socialist countries), the Baltic republics were part of the Soviet Union, Albania remained in almost complete isolation, and all other countries also differed greatly in terms of their socialist "pathways". The countries undertook different approaches to economic reform, and the reform progress that has thus far been achieved also varies to a great extent.

From a cultural perspective, the region enjoys vast diversity, which has implications for all aspects of society. For this reason, generalisations about the region and the typologies used in the study represent general trends rather than judgements on each particular country, and certain reservations must be considered when looking at different countries.

The paper provides an overview of state of art of VET research against the background of vocational education and training in the context of socio-economic development in the partner countries. The cultural diversity presents a semantic challenge for understanding not only of what vocational education and training is, but also for what research into VET means. In this view, VET is understood in its broader sense, which embraces not only initial education but also continuing vocational training (CVT). The overview analyses research that has been produced so far on the problems, challenges and developments in the relationships between VET, the labour market, and the economic and social aspects of the reform process in the countries undergoing transformation. Therefore, the study also looks at contextual research, primarily dealing with the labour market.

There have been several attempts to give a definition of *research into VET* (e.g. Sellin and Grollman[1] (1999)), but it is difficult to find an exhaustive one. Therefore, we will adopt the following definition of *education research and development* (the 'Frascati Manual'): 'Educational R&D is the systematic, original investigation or inquiry and associated developmental activities concerning: the social, cultural, economic and political context within which education systems operate; the purpose of education; the process of teaching, learning and personnel development; the work of educators; the resources and organisational arrangements to support educational work; the policies and strategies to achieve educational objectives; and the social cultural, political and economic outcomes of education'.

Without attempting to give an exhaustive definition of *VET research*, for the purpose of this paper and with a certain amount of oversimplification, we understand research into VET as those analytical studies that base

1) Sellin and Grollman use a too rigid definition of VET research in the view of the *scientifity* of criteria and methodology. Through this strictness perhaps we will not be able to take count of analytical studies produced in the framework of development projects and even some applied research. The definition also overlooks the labour environment and the world of work as such, looking instead at psychological and behavioural aspects in the socio-economic context (see more Sellin and Grollman 1999).

themselves on accurate methodology and focus on one of two aspects: *the requirements*, and *the process* and *the outcomes* of VET.

The first aspect involves not only research into VET as such, but also and above all contextual research aimed at the identification of social and economic change (both macro and micro), labour market requirements, the development of new technology, the changing nature of work, the shifts in job profiles and qualification systems, the identification of vocational standards and the approximation of curriculum development to meet the needs of employment, key skills and competency-based qualifications, financial incentives to support training provision and access to training, problems of the transition from schooling into the labour market and so on.

The second aspect involves research on teaching and learning methods, mechanisms of quality assurance, evaluation of study results, certification, curriculum innovation, modular training, etc. Although the traditional division between fundamental (or basic) research, applied research and development projects is used hereon in the text, the division is somewhat artificial and must be considered with some limitations. It is rather difficult, or almost impossible, to distinguish pure examples of each type, as most projects contain some elements of another type. Moreover, to draw a strict line between applied research and development projects might in some cases be not only artificial but also misleading. Pure theoretical research is very rare and one may even question the significance of such research without thorough empirical support. Thus, the aforementioned typology is used in very general terms.

1.2 Objectives and hypotheses

The objective of the study is to provide an analysis of current research in the field of initial and continuing VET in CEE with reference to its theoretical and methodological foundations, its research results and its research "efficiency" in policy making and practice. The overview of VET research seeks to identify the structures and "products" of research in VET, irrespective of whether the research has been produced in or outside the region. Therefore, the study covers research at the international level, the national level, and when available also at the regional or local level. Although an analysis of the institutional framework of VET research is not a primary task of the study, the paper does make an effort to identify deficiencies in the research systems of the countries. The paper does not attempt to assess either the institutes involved in VET research or the studies and analyses produced by them. This is not our objective.

The major objective of the study is *to identify the main research gaps* in the field of VET (areas of research, which are insufficiently covered) and systemic drawbacks that create obstacles for further research progress. Furthermore, the overview of VET research in CEE attempts *to bring about the transparency* of analyses in the field of VET produced in the region and to give examples of good practice in VET research where possible.

Thus the study is composed in the following way: first, it looks at the main challenges for VET research in socio-economic context; second, it examines the institutional and financial environment of VET research; then it looks at types of research and topics which are tackled by VET research in CEE, and its basic findings in thematic clusters (research into systems and contextual research) and finally, the paper defines the problem areas in CEE VET, which are not covered by research – the research 'gaps'. The concluding part of the study offers a set of recommendations for policy makers, researchers and practitioners at both the national and international levels.

The paper hypothetically suggests that identified priorities for research into VET will often coincide among the countries of CEE. The nature of the transitional period in CEE along with the process of globalisation and change has placed special importance on socio-economic contextual research as far as VET is concerned. Therefore, priorities will concentrate on the requirement aspects of research (see above). The future priorities of research are not necessarily gaps, i.e. neglected or

abandoned areas of research, and in many cases will be dictated by the challenges of recent developments, introducing either new areas of research or rather new challenges in areas explored. The problems and priorities of VET research in CEE are, hypothetically speaking, not unique to the region, and in the majority of cases they will be similar to ones seen in the EU member states. However, the degree of specificity of the regions and the milestones of recent socio-political and economic change will to some extent render the future needs and objectives of research also specific in nature. Hypothetically we may suggest that VET research has a higher level of production and maturity in the countries where VET itself enjoys a long-term tradition and prestige.

1.3 Methods and sources

The study was commissioned by Cedefop and was supported by the European Training Foundation (ETF)[2] for the preparation of additional short overviews produced either by the National VET Observatories or by experts in the CEE countries nominated by them. The Czech National Observatory of Vocational Training and the Labour Market at the National Training Fund coordinated the work of the ten sub-contractors. National Observatories are small institutions established under the initiative of the ETF in the partner countries to provide accurate and up-to-date information on VET and the labour market. Different types of institutions host the National Observatories, varying between the governmental and the non-governmental sector, research institutes, academic centres, development agencies, independent non-profit foundations and private establishments.

Due to the wide scope of our overview on the state of affairs of VET research in CEE, in most cases only the recent studies and papers were considered, i.e. not extending beyond the period of the last two years, and only in few cases we looked at earlier analyses. The paper is based on four types of sources: National Observatories were sub-contracted

1. for preparation of a short overview on the basis of the standard Terms of Reference, with a commonly identifiable structure; and

2. for delivery of publications and other materials that represent research results in their countries (theoretical studies, surveys, reports, evaluations, etc.

3. The ETF commissions thematic analytical projects mostly with the help and direct participation of the National Observatories, but sometimes with the assistance of other national experts and institutes. On the basis of these thematic reports, cross-country, comparative reviews are produced by international experts or the ETF themselves. The transnational reports and sometimes the country thematic reports served as another important source of information for the present paper.

4. Additionally, studies commissioned by other international institutions as well as international statistics were used (OECD, World Bank, European Commission, Cedefop, ETF, Unesco, etc.).

In respect to the latter, it is important to note that not all, international studies are produced with the direct or indirect participation of national experts. Therefore, the paper might not always provide an adequate impression of state of art of research *within* the countries of CEE. This is especially true in the case of some of the less developed countries, where research has not been a priority in recent years, national analytical works have been largely abandoned and consequently foreign expertise has represented the foremost analytical operation there.

The summary of preliminary findings was presented first at a National Observatories' meeting in Tampere, Finland in November

2) The European Training Foundation is an agency of the European Union which works in the field of vocational education and training in Central and Eastern Europe, the New Independent States, Mongolia and the Mediterranean partner countries and territories. The Foundation also provides technical assistance to the European Commission for the Tempus Programme.

1999, and later at the conference *Shaping social innovation and VET – the contribution of Leonardo surveys and analyses projects* in December 1999, where main priorities of VET research in CEE were presented. Comments from the audience were taken into account as well as commentary on the draft version of the paper, which was distributed to National Observatories and selected experts. The author is extremely grateful to all those who did their best in collecting information and commentary on the paper in the given limited time frame[3]. Despite the numerous contributors to the preparation of the paper, the author takes complete responsibility for statements expressed herein.

The author had to rely mainly on the information provided by the National Observatories, although a great deal of additional publications, expert judgements and comments were used. Given the limited time frame and the broad scope of the study, the analysis could only provide a general overview of the state of art of VET research in the region. The author had to take into account the natural limitations of the study. In some countries more materials were available in English than in others. The country background papers differed in terms of the quality and the scope of information and reference materials provided. For instance, there was very limited access to studies and other research materials produced in Hungary, and the country overview on research provided rather vague information. Another important limitation must be mentioned with regard to Albania, where most statistical data is not available, which made the inclusion of the country in the analysis very difficult.

Therefore, the analysis is not completely balanced and some countries are more comprehensively presented than others. Areas of research might also be presented with a certain imbalance, as it highly depends on the specialisation of the institutes or experts involved in the preparation of the paper. In the identification of country- specific research gaps, the author also had to rely on reporting from the countries, where in many cases, however, this was prepared from the perspective of one institute without a consensus necessarily being reached on a national level. Therefore, the so-called research gaps in the countries may have a different meaning, varying from neglected research areas to topics that have received considerable attention from researchers but need further elaboration. Taking into account all aforementioned shortcomings, we must still point out that this paper is the first attempt to analyse the research situation in CEE in the field of VET and could act as a useful tool for discussion. A more in-depth analysis may be useful in the future, commissioned in a series of papers on specific topics of VET research, in order to avoid rendering the scope of analysis too broad and to a certain extent fusing the task as a result.

2. Context and challenges of transition for vocational education and training in CEE

2.1 Research and democracy

For half a century, scholarly discourse in CEE was dominated by writing in the spirit of official political rhetoric. At the same time one should not ignore the tremendous role the research community and intellectual forums did play in supporting democratic ideas under the previous regime and the role of re-

3) The author would like to express her gratitude to the national contributors in charge of background papers preparation, whose names are mentioned at the beginning, for their solid work and quick commenting and information provision under the given time pressure, and to all National Observatories who took charge of co-ordination and also served as first-hand help desks in author's work. In this respect I would like to mention in particular the following names: Zef Shala, Natalia Zimina, Agnieszka Sokolowska, Danuta Mozdzenska-Mrozek, Juraj Vantuch, Tamas Kopeczi-Bocz. I also would like to express my thanks to all experts, who contributed by their commenting and suggestions, namely Adela Rogojinaru, Vincentas Dienys, and Barbora Kuta. Finally I would like to express great thanks to my colleagues at the Czech National Observatory whose assistance in preparation of the study was highly beneficial: Věra Czesaná., Linda Hrochová and Věra Havličková.

1286

search in the advancement of new ideas immediately after the break-up of the socialist system. Resourceful thinking and an intellectual debate appeared to be the main driving force of change at the end of the 1980s. The new polity introduced new chances for the research but also new challenges.

Of all political arrangements, it is democracy that is the political context most fertile for science, 'because it encourages and strengthens the scientific ethos' (Kazancigil and Makinson 1999 p.261). Approached from the opposite direction, 'democracy requires an interested, competent, knowledgeable, educated public' (Ibid, p. 262). It requires an elaboration of the reform rational by researchers, and researchers seek for recognition and public consensus on the value of this rational. Democratic polity demands a scientific background for political decisions and thus creates a favourable environment for research.

The new universal democratic values in science have introduced the principle of diversity into scientific thoughts and traditions, cultural pluralism, academic autonomy, and scientific freedom. Research in CEE could not remain in isolation, and in the environment of the global internationalisation of the research community, the CEE countries have gained the most from benchmarking comparisons with contemporary international scientific achievements. In the field of VET, the modern Western theories and concepts of the systems and content of education served as a point of reference for an elaboration of the national concept of VET reform. The initial 'stocktaking' phase of the reform has expired in most countries of CEE, and a turning point has now been reached when the scientific community is to elaborate its own national concepts and approaches. Innovation in the field of VET on the basis of foreign know-how turns to original national innovative abilities in research and exchange with the international community on the basis of equal partnership.

This is an important challenge for the CEE research community which is undergoing a transformation itself. In the past, not only political rhetoric dominated the research but in addition the forms of research were influenced by the regime. Applied research had not been sufficiently employed, as the regime did not require support for political arguments with empirical data, or if it did, it often turned to falsification and scientific discourse. VET research, to the same extent as VET itself, served the political power and was fully dominated by it, not being an equal partner of the decision-maker but rather an instrument, serving the needs of the centrally planned economy with the precise provision of the workforce.

At present the research community in CEE is pursuing global developments in science: internationalisation, universal principles and culturally-centred concepts, multidisciplinarity of research, inter-institutional cooperation, diversification of the institutional base of research (incorporation of civil society and the private sector), cooperation in decision-making and in the world of employment, putting results into practice. The transitional context, however, is not always favourable and imposes certain implications on the development of research in CEE at the present time. For instance, the current interests of research are largely defined by their financial needs, and so turn to applied research, while theoretical elaborations are largely abandoned. For many researchers this presents the dilemma of the choice between 'paid' research or other work and private scientific interests. In the following sections we shall see what the main socio-economic and political challenges for VET research are. Further we shall also look at what the shortcomings of the institutional, organisational and financial contexts of VET research are, and where the VET research in CEE has or has not been successfully addressing the challenges of transition.

2.2 Recent socio-economic developments

All eleven countries in question had a four-decade history of socialism before 1989, following either the Soviet pattern or their own socialist path (Albania, Yugoslavia). During socialist rule, the region maintained member-

1287

ship in CMEA[4], which involved a division of labour between the countries, with specialisation in the production of certain goods. Therefore, after the years of cooperation within CMEA, the countries suffered from overspecialisation in particular industries and agricultural products. Vocational training, being closely linked to enterprises, and education in general, and provided in accordance with a meticulously calculated manpower supply for the state planned economy, repeated the pattern of overspecialisation of the economy itself, with narrow branches of specialisation at the top. Training was often directed towards lifetime jobs (ETF 1999a). The nature of the centrally planned economy was reflected in an under-representation of market-oriented branches, for instance in the services sector. Poor technological development in the economy was reflected in poor equipment for education. The school system and as well as the content of education were defined by the state and its structures, neglecting modern innovative methods of curriculum development, teaching and learning. Passive learning and encyclopaedic knowledge (Parkes et al. 1999) along with an old-fashioned mechanical mediation of the knowledge defining teaching methods, were features of schooling prior to 1989.

The process of democratic and economic reform began in CEE countries between 1989 and 1991. The political transition commenced in most countries in 1989 (with the exception of the Baltic states and Slovenia which gained independence in 1991), but substantial market reforms were not initiated before 1991 (with the exception of Hungary and Poland, where reforms started before 1990).

Since the beginning of the process of economic restructuring, the progress achieved in transforming economies into competitive and dynamic markets has differed to a significant extent. The early 1990s were characterised by a collapse in output and a decrease in labour productivity throughout the entire region. GDP in terms of output volume fell by at least 20% in all countries at the beginning of transition, and only in Poland, Slovenia and Slovakia had the GDP by 1998 re-gained its pre-transition level (in Poland it was some 17% higher than in 1989)(European Commission 1999, p. 52). Productivity growth has been a feature of the majority of countries in the region in recent years, although output per person employed in the Czech Republic is still at the pre-transition level. In Bulgaria, Romania (European Commission 1999) and Albania, both output per person and GDP are well below the pre-transition level. These countries have yet to rationalise their economy, making it more efficient, and reducing the excess in manpower in industry and agriculture.

At the beginning of the economic transition from a planned to a market economy, in most CEE countries there was an immense drop in employment in the state-sector industry, which was then followed by a steady decline. Whilst there has been a net creation of jobs in the private sector, it could not absorb the entire labour shift from the state sector. This resulted in continually increasing unemployment. Even in the countries that initiated intensive economic reform in the early 1990s and where growth in employment has been stable over the last four years, this increase in employment was still unable to compensate for job losses in comparison with the situation in 1989. In 1998, the average employment rate in CEE countries (with the exception of Albania, where comparable data are missing) was around 63%, slightly above the EU average of 61%, with the highest employment rates, at around 70%, registered in Romania, Estonia and the Czech Republic (68%), and the lowest, at around 55%, in Hungary (European Commission 1999). In all three countries with a high rate of employment, however, employment declined in 1998. In the Czech Republic and Romania, the deterioration of the employment situation could also be explained by economic decline (GDP fell by 2,5% and 7% respectively in 1998, see table 1), and above all by the delayed imple-

4) Council for Mutual Economic Assistance was established in 1959 and included Albania (only until 1962 when the country stopped any cooperation within CMEA after the break-up of relations with the USSR), Bulgaria, GDR, Hungary, Poland, Romania, USSR, Czechoslovakia. Yugoslavia had a status of associated partner in CMEA, underlying its independency in the socialist path. The latter was a member of the Non-Aligned Countries.

1288

Table 1: Key data

	Population (thousand)	Territory size (km²)	Working age of population (15-64) (% average annual change)	GDP annual (% change)	GDP per capita in PPP (EUR)	Private Sector (% of GDP)	Inflation (%)
	1998		1994-1998	1998/1997	1998	1999	1998
	A	B	C	D	E	F	G
ALB	3 354	28 748	x	8,0	912 [1]	x	8,0
BUG	8 283	110 993	- 0,2	x	3 364	60	x
CZR	10 299	78 864	0,5	- 2,3	11 866	80	10,7
EST	1 446	45 227	- 0,8	1,1	4 000	75	8,2
HUN	10 092	93 033	0,0	5,1	9 186	80	14,3
LAT	2 400	64 589	- 0,9	3,6	2 743 [2]	60	2,8
LIT	3 700	65 300	- 0,1	5,1	2 622	70	2,4
POL	38 667	322 577	0,8	4,8	6 057	65	8,7
ROM	22 500	237 500	- 0,3	- 6,6	3 285	60	59,1
SLK	5 400	49 035	0,9	4,4	8 900 [3]	75	6,7
SLO	2 000	20 250	0,1	3,9	13 700	55	7,9
EU-15	x	x	0,3	2,8	19 007	x	1,6

Sources: A,B,D,E,G : Fact Sheets, European Training Foundation, 1999; C : Employment in Europe 1999, European Commission 1999 F: EBRD Transition Report, 1999 (in Business Central Europe 12/1999); EU 15: OECD National Accounts, OECD 1999, 2000.

Notes: 1) estimation; 2) year 1996; 3) year 1997

mentation of a number of economic reforms (European Commission 1999). The employment situation improved in Poland and Hungary in 1998 (European Commission 1999), the countries that started intensive economic reforms in the early 1990s. A slight improvement in employment situation has also been recorded in Latvia.

As in the EU Member States, unemployment has fallen in most CEE countries in recent years. The exceptions are Slovakia, Romania, Slovenia, and especially Bulgaria and the Czech Republic, where the unemployment rate increased significantly (see table 2, annex 1). The Czech Republic and Romania have still enjoyed the lowest unemployment rates[5], at about 6,5% in 1998, though the tendency toward unemployment is strongly increasing in the Czech Republic. The unemployment rate in Hungary and Slovenia was below 8% in 1998, and in all other countries close to 10% (Estonia, Poland, Slovakia) or above 13% (Bulgaria, Latvia, Lithuania) (European Commission 1999).

In all transition countries unemployment and income decline caused the spreading of poverty and demographic crisis. The demographic situation has been characterized by the sharp fall of natality rates, the rise in mortality in a few CEE countries and the large flows of international migration, particularly from more deprived countries and regions (Ellman 1997). Furthermore, the ageing of the society brings many implications on social policies and the burden on the public budget.

The structure of unemployment has been changing in all countries, manifesting increasingly higher proportion of young people, fresh graduates, people with low or no qualifica-

5) For the reasons of comparability unemployment rates, used here, correspond to the ILO definition. The differences with the registered unemployment rates can be significant in some countries (please, see further elaborated in 5.2.1).

Table 2: Key employment indicators

	Employment rate (% population 15-64) 1998	Share of employment in agriculture (%) 1997	Share of employment in industry (%) 1997	Share of employment in services (%) 1997	Unemployment rate (%) [1] 1994	Unemployment rate (%) [1] 1998	Youth unemployment (15-24% unemployed) 1997	Long-term unemployment (% unemployed) 1997
ALB	x	x	x	x	x	17,7	x	x
BUG	55,2 [2]	11,6	36,6	51,7	20,5	16,0	26,1	56,3
CZR	67,7	5,7	41,3	53,1	3,8	6,5	28,6	31,5
EST	69,1	10,0	33,5	56,5	7,6	9,6	19,9	45,8
HUN	51,4	7,8	33,2	58,9	10,7	7,8	27,5	55,3
LAT	56,0	20,6	26,8	52,6	18,9 [3]	13,8	22,1	62,9 [4]
LIT	64,5	20,5	21,5	58,0	17,4	13,5	26,0	25,2
POL	60,5	19,9	32,2	48,0	16,5	10,6	27,5	34,1
ROM	71,8	39,0	30,5	30,5	8,2	6,3	46,5	51,8
SLK	58,9	8,6	39,2	52,2	13,7	11,9	31,9	57,6
SLO	65,1	10,2	41,6	48,2	9,0	7,7	33,6 [5]	54,9
EU15	61,1	5,0	29,5	65,6	11,1	10,0	X	x

Source: Employment in Europe 1999, European Commission 1999;
Albania – Source: Fact Sheets, European Training Foundation, 1999.

Notes: 1) ILO Methodology; 2) year 1997; 3) year 1995; 4) year 1996; 5) year 1998, 2nd Quarter

tions, elderly, ethnic minorities and people with disabilities. Youth unemployment increased during the transition period in all countries, and the situation has only started to slowly improve in Bulgaria, Romania and the Baltic States. Youth unemployment as a percentage of the unemployed varied in 1998 from about 22% in Latvia and Lithuania to 43% in Romania (European Commission 1999, pp.146-149, see also table 2). In all countries, with the exception of Romania and Slovenia, job losses brought about the withdrawal of a substantial number of people from the labour force, which led to a significant rise in early retirements and the subsequent fall in the employment rates of those aged 50 and over (European Commission 1999, p.60).

The two age groups mentioned above– the young and the elderly – already suffer from a lower level of participation in the labour market, and when this is multiplied by low or inadequate qualifications, they may find themselves as being at a high risk for marginalisation and social exclusion. This challenge has been reported by many CEE experts. Lithuania represents a peculiar example of an even more dramatic situation due to economic disorder experienced in the early transition period, as a large portion of the of youth population (reportedly almost two entire age cohorts) do not possess any vocational qualifications recognised by the state (Gurskiene 1999). Thus if the state will not conceive special training programmes which could help these people to obtain a vocation, they will constantly be found knocking at the doors of the labour exchange office (Dienys and Pusvaskis 1998). The same holds true for the older part of the population, which has an even higher risk of marginalisation in that they face greater difficulties in adapting to the new conditions than do the youth, and also in that they are somewhat disadvantaged in re-training provisions during times of economic hardship, when training authorities often need to prioritise their subsidies for training courses.

1290

In all countries of the region, a certain proportion of the respective age group leaves the general and vocational education system prematurely and without qualifications. It is estimated that this proportion can be up to 20% of the age group in vocational types of education in some countries (ETF 1999b). The factors behind this lack of achievement are essentially not very different from those in EU member states, but obviously, the specificity of the transition period add to their particular dimensions (ETF 1999b).

Although activity rates decreased in all CEE counties in the transition period, employment among women aged 25 to 49 was still higher than in the EU average throughout the entire region (European Commission 1999). Nevertheless, the employment rate among women decreased in at least two countries of the region, Hungary and the Czech Republic, where with the decline in the absorption capacity of the labour market females often withdrew from employment and opted to stay at home. This temporary withdrawal may turn into lifetime exclusion if there are no special supportive measures assisting women in their return to the labour market (including re-integration into the labour market after maternity leave).

The opening up of the economy and the subsequent pressure from competitive markets has pushed the transition process into adjusting to global changes. Although the basic pattern of the employment shift and the restructuring of output and trade was the same in CEE as in the EU and global markets, the excess of manpower in industry and, in some countries, agriculture on the one hand, and the underdevelopment of the services sector on the other, have demanded an even higher rate of adjustment. The characteristics of employment have changed dramatically since 1989, when in majority of countries there was a big shift from the primary and secondary to the tertiary sector.

At least in several CEE countries the issue of unemployment and especially hidden unemployment is closely related to agriculture. A decline in employment in the agricultural sector was registered in the majority of countries, and only in Bulgaria and Romania has employment in agriculture slightly increased (European Commission 1999), absorbing part of the job loss from the industrial sector. Agricultural sector had been overstaffed in the whole region under previous regime, and although substantial shifts in employment from agricultural sector have been marked, still far too many people work in agriculture. In all countries the proportion of employment in the agricultural sector is above the EU average (about 5%), especially in Romania (about 40%), Poland (about 20%) the Baltic States (see more table 2), and Albania. In the situation of reforming economies it is not a facile exercise to provide sufficient amount of jobs in alternative sectors. Therefore, two aspects are important in this view. First, development of infrastructure and agriculture-related jobs in rural areas such as food processing and distribution, banking and other services (Bialecki et al. 1996), agrotourism and other innovative semi-rural activities, which introduce ever-new challenges to traditional skills. In this respect widely available vocational guidance services and re-training courses are crucial. This cannot be implemented without a thorough analysis of regional development and labour market needs. Second, in order to make agriculture more efficient and competitive as compared to a highly subsidized EU agriculture, adaptation of education and training to the new demanding requirements is necessary.

Despite the extensive job losses in industry, the proportion of employment in this sector was still above EU average (about 30%) in the majority of the countries, exceeding 40% in the Czech Republic and Slovenia (table 2). The opening up of CEE markets also introduced an important qualitative shift in the industrial sector, featuring a move from heavy industry and labour intensive production to sophisticated manufacturing and technology and knowledge intensive production. This shift has brought about quickly changing skill requirements in the industrial sector.

Employment in the services sector has risen throughout the entire region since early 1990, although in 1998 it was still far below the EU average (European Commission 1999, for

Table 3: Unemployment by educational attainment, 25-59 year olds, 1997 (%)

	Unemployment rate (%)		
	ISCED 0-2	ISCED 3	ISCED 5-7
BUG	14	10	5
CZR	12	3	1
EST	16	13	7
HUN	14	7	2
LAT	15	14	8
LIT	16	16	9
POL	11	8	2
ROM	4	5	2
SLK	23	8	3
SLO	9	5	3
EU 15	13	9	6

Source: Key Indicators 1999, European Training Foundation, 1999.

1997 data see table 2). Thus the absorption capacity of the services sector still maintains the potential to compensate for job losses in industry and agriculture. Taking into account the underdevelopment of the sector and the negligence in the vocational preparation for it during the pre-transition period, the shift in labour towards the services sector often occurred without any specific vocational preparation and large scale re-training activities (this is especially true for less demanding occupations). In order to cope with the competition in open markets in terms of providing client-oriented quality services, the need to pay particular attention to the provision of training in this sector speaks for itself.

The shift in employment from large to small and medium-sized enterprises followed the pattern of EU countries, but saw a greater rate of change due to the restructuring of large state industrial enterprises. In spite of the significant employment shift towards SMEs, the proportion of those employed in large industries in CEE still remains larger than in the EU. Given that the tendency will continue, it is important to take into account the special skill requirements of SMEs, where highly adaptable manpower with multiple qualifications and the ability to learn during their employment life signifies focal challenges for VET. The latter change is closely related to changes in work organisation with flexible job definitions, greater responsibility and independence of employees, more emphasis on team working and adaptability to quickly changing new technologies with ability to 'undertake a variety of tasks at the shop floor' (ILO 1998, p. 42).

In addition to the specific problems of transition economies, the CEE countries face the same challenges as EU member states, such as facing demands involved with the globalisation of the economy, technological change, and the rise of the information society. These challenges impose a special role on VET, which is to produce a highly qualified, flexible and employable labour force. The figures in all countries show that the higher the level of education attained, the lower the risk of unemployment (table 3)

The consequences of globalisation have an ambiguous impact on education and training. On the one hand, the increasing importance of knowledge-intensive industries, cumulating new technologies and ICT in the production process, the employment shift to the services sector and SMEs, increase the demand for upskilling and multiskilling. On the other hand, globalisation trends cause a more severe competition, which, under the conditions

1292

of the turmoil of transition economies, increases the danger of troublesome access to training, especially after the completion of the initial training, These challenges impose a demand in the elaboration of national policies and the introduction of special incentives for companies to support training provision. The initial education needs to enhance access and capacities at higher levels of education and provide a broad basis as a primary incentive for lifelong learning.

2.3 Initial setting and future challenges

Virtually all CEE countries had an advanced system of education that had developed in pre-socialist times and during the socialist period. Under the communist regime, elementary and lower secondary education was provided on a compulsory basis by state-run schools. Upper secondary education (ages 14-18) was provided in the three main streams of general, technical and vocational education. General education was provided mostly for a small cohort of potential enrolments into higher education, the capacity and selection of which was rather limited. The republics of the former Soviet Union, in particular Estonia and Lithuania, represented an exception, where VET had very low prestige, general education enjoyed higher participation rates and access to higher education was somewhat better. The vocational education and training available was traditionally broad, enjoying high participation rates and relatively high prestige in many CEE countries. VET had primarily narrow specialisation schemes, often attached to state-run enterprises. VET had to fulfil its basic function of producing semi-skilled and skilled workers to meet the occupational needs of state industry and agriculture, based on the rigid, central manpower-planning framework. The process of democratisation had serious implications for VET in CEE countries. The lack of flexibility in training, too narrow specialisation, over-production of semi-skilled and skilled workers and underproduction of highly qualified labour force werefeaturs of the VET systems in CEE at the beginning of the1990s, at which time VET began to find itself increasingly irrelevant to the quickly changing demands of the reforming economy.

The weakening of state-based enterprises and the process of restructuring the economy worked to fracture the links between enterprises and vocational schools, and as a result the danger of vocational knowledge and skills remaining irrelevant to labour market requirements has increased. Companies, concerned with their own survival on the market have ceased to operate on-site schools and have lost interest in making contracts with vocational schools for the practical training of apprentices. This has led to a situation in which the VET system in CEE countries is predominantly school-based (the case of the Baltic republics, Romania, Bulgaria). In some countries, elements of partial, enterprise-based apprentice training have been preserved, but the extent of this continues to diminish (Czech Republic, Slovakia, Poland), and only in two countries (Hungary and Slovenia) was the dual system of apprenticeship training either preserved or re-introduced. Hungary is virtually the only country where the attempt to keep enterprises interested in participating in the provision of VET, has been relatively successful as compared to other countries. This is largely due to the early establishment of a system of financing through a national levy fund for vocational training and of tripartite bodies at the national and county levels. Economic hardship in enterprises as well as their shortsightedness have also depreciated training and development in human resources, and participation in CVT in many countries has been decreasing over the past decade.

The communist legacy has had an impact on trends in the participation rates in education even up until the present. The analysis of the Key Indicators (ETF 1998) shows that most of the countries with traditionally high participation in vocational education (ISCED 3) as compared to general education (Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovenia) still have substantially higher enrolments in VET. A shift away from VET towards general education is evident in Bulgaria and Hungary. In all CEE countries there has been an increase in enrolments in general education providing preparation for entry into higher education. Lithuania and Estonia that have traditionally seen higher

participation in general education than in VET, experienced an increase in enrolments in VET between 1993 and 1996, but also a further increase in enrolments in general education. Latvia, the only Baltic country that had somewhat higher participation in VET but still very low prestige of it, has experienced a significant increase in enrolments in general education, and a decrease in enrolments in VET during the same period, which has almost levelled proportions enrolled in the two types of upper secondary education. Another country with substantially higher participation in general education as compared to VET is Albania, which suffered an overall drop in enrolments at the upper secondary level in recent years, especially in VET, although there was a slight increase in enrolments in general education in 1996. Additionally, in all countries (except Latvia and Poland) the proportion of enrolments in VET culminating in final examinations (Matura) has also increased. This demonstrates the increasing demand for higher qualification levels among students and on the market. The limited capacities at general secondary and higher education levels in a vast majority of CEE countries do not correspond to the demand of the economy and the society, and support 'creaming' of small proportions of age cohorts on the one hand and the underskilling of early school-leavers and the low qualified on the other hand.

The process of democratisation and the transition to a market economy presented the VET system with challenges, and instigated the need for substantial reform. The reform process in VET in CEE featured a high rate of diversification in available education, the introduction of private education, an improvement in access to complete upper-secondary education programmes, especially in general education, and subsequently in higher education. The reform encouraged innovations in teaching methods, standards and curricula, promoting the efficiency of VET, putting an emphasis on core skills and on the relevance of skills/capabilities to the labour market. The reform process has not been completed in any CEE countries yet and is considered rather as an on-going process with a long term orientation. In all CEE countries, reform has been supported by Phare and other international donor support programmes.

Preparation towards EU accession introduced new challenges for the VET systems in the CEE countries. The countries stress an objective of focusing on the development of the human capital, prepared to compete at global markets. The competitiveness, based on low labour costs, clearly is not a solution in a longer run. The CEE countries need to concentrate on investment into human resources, the provision of diversification of the training offer, an increase in the suitability of given qualifications to the new competitive requirements and ensuring equality of opportunity in access to education and training for all. The EU policy guidelines increase the demand for the employability of the work force, which must be tackled by reforming the content of education as well as teaching and learning practices. The goals and contents of education need to integrate education for democracy, the European dimension and multicultural aspects in education. The shift from input quality control to output control of education, and the elaboration of vocational and qualification standards shall be enhanced in close collaboration with social partners. The EU accession prospects will introduce greater labour mobility across Europe; under these circumstances a highly qualified labour force is the key to success. In the context of labour mobility it is also important to ensure transparency and recognition of qualifications, provided in the CEE countries and beyond.

Preparation for the EU accession also involves activation of the process of institution building, improvement of systems of social partnership and enhancement of the principle of subsidiarity in decision making. The latter point is especially important in the context of the initiated regional reform in most CEE countries. The specificity of the region is still large hidden unemployment in rural areas and high redundancy in state enterprises that cause significant differences in unemployment rates between regions. The unemployment is especially high in rural areas and in the regions with heavy industries (coal mining and metallurgy). In the disadvantaged areas further shrinkage of employment in ag-

riculture and heavy industries is expected. An elaborate policy, including education and training measures, to promote social cohesion in such regions is important. The process of institution building at a regional level needs to go hand in hand with expert capacity building of institutions and individuals at regional and local levels. The regions need effective collaboration in partnerships, inter-institutional cooperation, exchange of information for analysis and definition of priorities for regional development. The lack of expertise and capacity at a regional level in defining problems and suggesting solutions in a broader perspective ('think globally, act locally'), may become an obstacle in further development. The next stage of the VET reform process needs a great deal of strategic thinking and conceptualisation in order to utilise the human potential in the CEE countries at all levels.

2.4 Conclusions

In all countries of the region, vital changes have occurred since 1990, the lasting importance of which should not be underestimated. Nevertheless, the progress made by the countries during the period of transition varies markedly throughout the region. The countries that have advanced economically are already experiencing some growth in economic output and employment. However, the excess of manpower in the industrial and agricultural sectors is still an issue in most parts of the region, and a further shift towards the services sector could be expected in the coming years. Job losses and a decrease in employment in the early years of transition, though partly compensated for by the expanding private sector, especially in successful transition economies, still affects large portions of the population. Disadvantaged groups on the labour market have suffered from the increasing rates of unemployment in the region, putting young people and the elderly, especially with low or no qualifications, people with different forms of physical and mental disabilities, and national minorities all at a high risk for social exclusion. The nature of the issue of social exclusion and an analysis of the causes and effects of the situation become especially important under these circumstances. The countries have tackled the problem through specific employment and training measures, the effectiveness of which has been measured in some countries (see further), providing a useful benchmarking perspective for the others.

The crucial challenge faced by the counties of the region is to complete the transition to a competitive market economy while at the same time creating sufficient jobs to avoid excessive rates of unemployment or inactivity (European Commission 1999), especially among the risk groups. The analysis of the socio-economic context has provided evidence of *a double transformation in CEE*, in which the countries of the region experience not only the single transition from a state to a market economy, but also undergo (and to no less an extent) a global transformation. The latter involves shifts in employment towards SMEs, deindustrialisation, changes in the world of work with the stress being placed on information technology and knowledge-intensive industries.

The opening up of economies to the highly competitive global markets introduces a dilemma of there being a need for ever higher standards of skills and competences (upskilling) and at the same time a lack of training provision by enterprises as a result of severe competition on the market. The latter point is not unique to CEE, but its severity is certainly exacerbated by the transition period, when many firms are faced with the question of survival. In this respect, the provision of initial and continuing vocational education and training becomes increasingly more important, and for the CEE countries the role of VET in preventing and combating the negative consequences of transformation has additional accountability. The role of the state in providing initial VET and re-training for adults under the aforementioned conditions becomes indispensable, but even more so is its role in the systemic re-organisation of training provision in such a way as to allow for alternative methods and sources of financing the system, better access to training among all age cohorts, and increasing the relevance of education to the needs of the labour market. The VET systems are undergoing tre-

mendous changes, trying to meet the challenges of "both" transformations, and finding themselves in... the middle of the reform process. In the surroundings of such profound and fundamental change the role of research speaks for itself. Research into VET and the labour market must be of sufficient aptitude to analyse the change that has occurred against the background of global trends and suggest further evolutionary steps. But is there a conceptual framework that can allow for this type of thorough analysis? Does research itself in the turbulent times of transformation have the adequate capacity to tackle this challenging task?

3. A conceptual framework for the analysis of change in regard to education and training[6]

Indeed, the change that had to occur after 1989 was almost taken for granted, without any particular specification of what needed to change and how. In the conditions of global change (see above) the challenge is even to find the point of departure, as well as the one of intention.

A great deal of literature has been written on change and even on the management of change, most of both concentrating on social and political theory and social psychology. The conceptual framework for change from the perspective of transition and with a strong reference to education aspects is missing, especially as far as research in CEE is concerned. Mestenhauser (1998), a scholar of Czech origin residing in the US, sought the answer to this problem in comparative thinking and in the key concept of "culture". He turned to cultural anthropology, using literature (Kluckhol and Strodtbeck 1961) as a reference point, and on this built up the concept of system diagnosis and knowledge recovery by the means of cross-cultural comparison. Indeed, the remarkable post-socialist change appears not to be merely a change within the same system, but rather an unprecedented transformation from one major system to another, which is not a simple linear change (Mestenhauser 1998) but a qualitative shift from one cultural perspective to another. Thus, the cross-cultural analytical perspective is a multi-dimensional variable where each research environment represents certain cultural values not only in a spatial dimension but also in a temporal perspective. Different cultural perspectives have different values of education, work, motivation, achievements, etc. The change in the period of transition, therefore, is an ongoing (non-static) change from one culture to another with the aid of an adaptation of values inherent to other cultures. The latter point is crucial.

The transition period, especially its early phase, was characterised by a high volume of research and development projects, produced with the help of foreign expertise, in which the mechanical transferral of their knowledge and skills could not be directly applied to the environment of CEE countries. While not intending to undervalue the contribution of foreign consultants to the revival of the region, it is difficult to deny that their intervention was not always efficient and workable. There is a great deal of evidence in social and political theory that the mechanical application of replicas of Western conceptual models in societies with different history and traditions may lead to scientific and existent discontinuity. However, complaints about this matter by the Eastern scholars were not accompanied by any elaboration of a local conceptual framework for development, often for the simple reason of a lack of thorough knowledge on strategic development. Dramatic change and profound societal developments require a massive infusion of ideas everywhere. It is, however, a dilemma to find a balance between universal and unique values. This balance is difficult to determine from the outside. The answer is certainly to be found not only in

6) This part is predominantly based on Mestenhauser's essay (1998) on Cross-cultural perspectives of change. The author, however, addressed the essay as a point of reference for conceptual framework, and the following text does not directly repeat Mestenhauser's statements.

1296

Figure 1: Scheme of changes influencing vocational training policy and the supporting research

Source: Lauzackas 1998, p.26.

the mere collaboration of scholars across borders and cultures, but also in effective dialogue, value sharing and a joint search for balance from both sides. This cannot be achieved without a massive "knowledge recovery" programme aimed at assisting Eastern scholars in acquiring intellectual knowledge, critical and comparative thinking and an elaboration of their own insight regarding future evolutionary needs. This will bridge the gap between "external" and "internal" cultural influences (Mestenhauser 1998).

The Lithuanian scientist Lauzackas (1998) pointed out that 'the focus of continuous vocational training change is the preparation of the participants and their predisposition to change themselves and the surrounding environment. Hence, only systematic knowledge of vocational training and anticipated problems can guarantee a well-grounded, strategic vocational training policy' (p.6). Lauzackas attempted 'to develop a complete, systematic, theoretical model of constantly changing vocational training, meeting educational needs of an individual and preparing him for the world of work' (p.6). The change of VET was tackled as 'an all-rounded development, determined by ever-changing relationships between a person and the surrounding economical social environment, as well as personal actions of vocational training participants' (p.11). Therefore 'the main quality of vocational training is the ability to change together with the changes in the surrounding environment so as to confirm to the most general principles of democracy and humanism' (p.21). Thus, provision of general qualifications, lifelong learning and the ability to learn, VET as a continuing process of human development, are crucial principles of contemporary VET (Lauzackas 1998). 'Having described vocational training change presumptions and principles, the object of vocational Education science is defined as the object of interdisciplinary science' (p.21). Therefore, 'labour market research, research of vocations, qualification research and vocational training research' are integral parts of the single system of research objectives.

A comprehensive understanding of the entire system and the dynamics of change is therefore an important aspect. What has been demonstrated in VET research in general and especially in the research in CEE is an examination of the autonomous parts of the system without an attempt to analyse it as one whole consisting of interacting and mutually shaping parts. Indeed, reductionism to one particular field (e.g. provision of initial vocational education at the upper secondary level) in the high dynamics of change and subsequent induction analysis does not allow for an account to be taken of all aspects of systemic change and mutual interference. Deduction from the complexity of system dynamics to the dynamics of its integral parts is an alternative conceptual approach, thus far not sufficiently exploited. This is subsequently reflected in the separation of institutional structures, researching bits and pieces of the system, with a lack of awareness of the achievements, information, knowledge and appraisal of the others. What is even more peculiar and novel for CEE, with the introduction of competitive relationships, the separate institutional structures within one country and one field of VET, including analytical structures, started to act as rival entities, just as though they were not parts of one and the same system. This phenomenon, although not necessarily typical for all countries, was evident in a few, not only in the private sector, where such behaviour could be explained by their market-oriented nature, but also among public or state institutions.

4. Institutional framework, organisation and development of VET research in CEE

4.1 Institutional framework of VET research

The following section is mainly prepared on the basis of a discussion paper written by M. Csako *Identifying and assessing VET research institutions in the Phare and Tacis countries* (1998) and the country overviews of VET research. As the former was commissioned by ETF with the specific purpose of analysing the situation in research institutes and the feasibility of establishing a network of research institutes in partners countries, the country overviews for the purpose of our study did not pursue the objective of assessing the situations of and in the research institutes. Furthermore,, this is not an objective of our analysis. Logistical and financial arrangements are considered only in terms of the constraints or advantages they induce in research. Therefore, information from Csako's paper (drawn from the analysis of two questionnaires distributed among experts in partner countries) was used above all, and only additionally compared with the information supplied by the National Observatories and their experts.

The patterns of institutional organisation for the purpose of the analysis of VET differ somewhat throughout the region. An attempt at typology in the later section of the paper provides only a general framework and is not intended to take into account the entire complex of arrangements of structures involved into VET research, which are at any rate in a continual process of change. Institutional arrangements for the provision of research in partner countries are still suffering from the consequences of the socialist past. 'VET research shared the fate of VET in general amidst the turbulent changes of the transition: many institutions have not survived, others have been reorganised, split into parts or re-emerged into new organisational structures. VET research has no uniform institutional structure throughout CEECs and the CIS. Central VET institutes seem however serving as foci of crystallisation of research efforts where they exist' (Csako 1998, p. 4).

Here it is important to emphasize one methodological remark about what actually Csako looked at in his paper. In the CEE region, he noted that only two countries established an institution called *research institute* in the field of VET: communist Czechoslovakia (in 1950) and Lithhuania (a research centre of Vytautas Magnus University in Kaunas established in 1993). Other countries have governmental institutions developing and supervising VET, or methodological or academic centres. No matter what the institution was called, our

1298

analysis demonstrated that there is no strict difference between them, and while research institutes deal with theoretical research as well as (and even predominantly) with development projects and applied research, this fact also applies in reverse. Even in countries where there is no institute in the field of VET with a major research capacity (Estonia and Latvia, Jogi 1999; Ramina 1999), other institutions have emerged as substitute structures (other sectoral institutes, universities, and National Observatories that under the circumstances seem to serve as focal points for VET research in these countries). Irrespective of whether the institutions involved in VET research are or are not research institutes, in CEE they have a far better capacity to carry out applied research (e.g. labour market analyses, school to work transition, sectoral studies) or development projects (e.g. curriculum development, elaboration of standards, evaluation of outcomes of education, etc.) and 'less ready to analyse the relationship between VET and labour market and even less fit to do theoretical research of larger socio-economic context of VET' (Csako 1998).

'Research in VET can be **distinctively** [highlighting by OSI] split into two main parts: research in vocational education, (under the Ministry of Education and Sciences) and research in vocational training, (under the Ministry of Labour and Social Affairs or other ministries). The first part is relatively broader than the second one, having qualitative advantages also'.

Mustafai A.,1999,
VET research in Albania

These facts in no way question the aptitude of the research personnel: researchers are of high quality in terms of level of scientific degree, volume of publications, involvement in international projects, etc. A lack of analytical capacity in the countries to cover the multidisciplinarity of the analysis of links between VET and the labour market reveals the traditional, old-fashioned, inductive approach of VET research, also heavily mirrored in institutional specialisation. For instance, institutes of labour and social affairs would mostly deal with research on labour and social issues, VET institutes would concentrate on the curriculum of initial education, pedagogical institutes would deal with didactics, etc. In the countries where there is no special research institute in the field of VET, VET research is sometimes located at institutes of education research. This arrangement also reveals an outdated privileged link of VET to education, along with its separation from the economy (Csako 1998, p.15). This problem is not a specific concern of the CEE region: it is rather a general issue on the European research agenda. Furthermore, in each one of the studied CEE countries there is evidence (mostly recent) of the positive practice of intersectoral, suprainstitutional and multidisciplinary studies, even though it is still rather exceptional. The idea of National Observatories as institutions that work in an intersectoral network of experts and institutions in their countries hopefully contributes to this positive development.

As has already been mentioned, another weakness revealed by Csako (1998) and confirmed by country papers on VET research (1999) is a lack of thorough theoretical works on the larger socioeconomic context of VET. Why this is so could not be straightforwardly explained on the basis of information provided by national experts. Perhaps the financial constraints of the transition period and the consequent prioritisation of projects that can evidently provide immediate results (i.e. ideally applied research and development projects) offer at least a partial explanation. In each country there are again fortunate exceptions, where attempts to undertake comprehensive theoretical research in a broad socioeconomic perspective have been undertaken (more so observed in Poland, Lithuania and the Czech Republic).

In general, the VET research community in Albania is limited, in terms of quality and quantity. Only during the last years, close cooperation of Albanian and foreign VET experts has influenced the improvement of their expertise.

Mustafai A.,1999,
VET research in Albania

The actual research and development work is often hindered because of a lack of researchers. There are only few people who could be called VET researchers and they are either of retirement

age or close to it, while there is no young generation emergin. There are also no schemes at present available or planned for initial training, continuous or retraining the researchers.

Jogi K., 1999,
VET research in Estonia

Although in general the high quality of expertise of the researchers in CEE is not questioned, there are certain limitations to expertise and deficiencies observed and reported by the countries (e.g. Bulgaria, Albania, and Estonia). It is interesting to note that it is for the most part (although not only) in the link itself between VET and the labour market, the world of work, and social partnership and VET, that a lack of expertise is pointed out. The problem is again derived from the same sources: the old-fashioned separation of the research function in education and the employment field. One peculiar complaint is found in the Estonian paper, (Jogi 1999) concerning the lack of training provision for researchers. The intellectual potential in the society actually emerges out of higher education, in which Estonia is not exactly an example of the "creaming" of small intellectual cohorts. According to data, this country enjoys the second highest rate of educational attainment in ISCED 5-7 (tertiary level) among all age groups, although somewhat decreasing among the young (here table 4). The only suggestion is that this is an indication of a lack of preparation at the university and postgraduate level in the field of VET and its macro-context.

There are certainly other reasons for expertise shortages than the lack of appropriate knowledge in the field: the limited number of experts in small countries (the majority of them in CEE) on the one hand, and numerous projects on the other hand, create a deficit among analysts; in some countries also the issue of the brain drain is not of little significance (the latter will be approached further on). Nevertheless, a programme of massive knowledge recovery seems to be a healthy and appropriate measure in all CEE countries, not merely by attracting foreign expertise (this will be further explored later on), but rather by sending existing and future experts for training and temporary work placements abroad (here more Mestenhauser 1998). Joint research projects are another invaluable tool for knowledge recovery and a strong stabilising factor in science: the analysis of data collected in one comparative survey (Bobeva 1997) shows that the higher the participation in joint research projects in the country (e.g. Hungary, CR, Slovenia), the lower the outflow of researchers from science.

'There is no one single central institution dealing with research in the field of VET. In 1990 the Institute of Vocational Education and Training, the only agency in the ed ıcation sector that dealt with research in this field, was closed. During almost ten years since the institute had been closed, a gap emerged, which has not been really fulfilled'. 'It is also worth adding that at the beginning of the 1990s other sectoral institutes, that operated in such important fields, as education programmes, teachers training and research of youth, were also closed. The reason for abolition of these institutes was low effectiveness and inconsistency with the new conditions of the state functioning. The rational behind these decisions was assurance, that higher education and science will undertake research in this field, but in practice it did not bring about the expected results.' [Translation by OSI].

Drogosz-Zablocka et al., 1999,
VET research in Poland

'It is estimated that actual inclusion of faculties is importantly connected with the interests of their researchers. It has to be mentioned that the most important research projects which led to the introduction of new vocational education and training system were carried out within the research activities at university. Out of three research projects from the field of vocational education and training, currently carried out within the National research programme, two are carried out within university research activities. Research projects dealing with the relation between vocational education and the labour market are also mainly carried out by the researchers at independent research institutes and university research institutes.'

Ivancic et al. 1999
VET research in Slovenia

The analysis of background country reports has demonstrated that in most countries the institutional arrangement is still suffering from the consequences of the socialist period,

1360

when research was separated from universities and placed mainly within the structure of national Academies of Sciences, or was transferred to state ministerial research structures. Pedagogical faculties were often closed under the communist regime, and were re-opened only after 1989. Research at pedagogical faculties, however, mostly tends to cover general and academic education and deals little with VET. Pedagogical research (didactics, educational psychology, etc.) also takes place primarily in the pedagogical faculties of universities.

Exceptional cases are Lithuania, Slovenia and to some extent Romania and Poland, where university VET research is quite well developed. In Slovenia, a great deal of applied research is undertaken at Slovene universities which also actively participate in the development projects of national interest. Vytautas Magnus University in Lithuania is a central VET research point where substantial applied and basic research has been carried out. In Poland, schools of higher education are active in research into agricultural training, and in the field of management and human resource development, done mostly by economic schools. A high share of profit from the research activities of Polish institutions of higher education (Drogosz-Zablocka et al. 1999) is an indicator of the activity of research function there, although the data refer to research in general without particular reference to VET.

In Romania, approx. 15% of the state budget for universities is allocated to research (Balica et al. 1999). The orientation of university research toward the field of VET came to be a component of Romanian reform. VET research constitutes a considerable share of the university research in this country. Universities in Romania mostly focus on fundamental scientific research, analysis of programme contents with reference to labour market requirements, regional development and other aspects (Balica et al. 1999). In the Czech Republic, although the Institute of Educational Research and Development at the Pedagogical Faculty of Charles University does not study VET as its primary topic, it has played substantial role in strategic studies and the formulation of policy documents working with experts from other institutions.

At present, the research function of universities throughout the entire region is undergoing revival. Although VET research at universities is fairly active in some countries (e.g. Lithuania, Romania, Poland, Slovenia), it still remains inactive in the majority of countries in the region.

The *cooperation of universities with industry and the business* sector in general is very exceptional even in countries where university research into VET is well developed (e.g. Lithuania). Only Romania and Slovenia reported somewhat better cooperation. In Romania, cooperation between universities and the business sector concentrates on human resource development requirements and makes up approximately 30% of university research financed by business (Balica et al. 1999). In Slovenia, universities are involved in developmental and advisory projects for the needs of companies in the field of human resource development (HRD), education provision, career planning, etc. The extent of this cooperation, however, has decreased during the years of transition due to financial constraints in companies (Ivancic et al. 1999). It seems that businesses prefer to work either with private sector consulting firms (applied research and consultancy) or with management development advisors from the MBA type of higher education. Unlike the other countries, cooperation between the university and VET schools is lively in Lithuania, where the results of master theses are often used by VET schools (Gurskiene 1999).

Social partner organisations are involved in VET research still only to a limited extent. During the period of transition, the institute of social partnership had to be re-instituted in the countries of CEE. From rigid, highly politicised and largely discredited structures, social partner organisations had to transform into active organisations representing the interests of the employer and employees at all levels of societal development. This process has been very challenging, and the role of social partner organisations in VET as such is rather limited in all countries (only Hun-

gary and Estonia seem to be more successful in this transformation). Cooperation between research institutes as well as universities with social partners is also very weak. The role of social partners undertaking research into VET is negligible. Slightly more active are employers' organisations, which conduct analyses of enterprise training and qualification needs and their HRD policy (e.g. Czech Confederation of Industry and Transport[7], Latvian Confederation of Employers[8], Latvian Chamber of Commerce and Industry[9]). There is no evidence of the active involvement of trade unions in VET research in CEE.

The role of *private, for-profit companies* in VET research within CEE is extremely limited. The process by which VET experts working in state institutions go private is only starting. So far a process of accumulation of VET knowledge from the perspective of international achievements and management skills has occurred. Harsh competition in the consultancy market comprised of leading European firms has also not been a supportive factor for entrepreneurship in the field of VET expertise by national specialists. This situation has started to change slowly and we can find a few studies produced by private firms in all countries. They mostly concentrate on applied research, surveying the training needs of companies, supply and demand in education, CVT offer (DHV Prague), assessing competences in the telecommunication sector (Telekomunikacja Polskiej S.A.), elaboration of the system of qualification standards in the banking sector (Polish Foundation of Banking Education and Research), assessing the graduates in enterprises and company skill requirements (AMD and Universitas in the Czech Republic), conducting regional (GAREP – Czech Republic) or subsectoral analyses (Gradua in the CR, AS PW Partners in Estonia). Sometimes private firms combine analytical work with training courses (mostly trainers training) and publishing activities (CIVET in Albania).

Studying human resource management, human resource development in companies, management training needs and management development are other fields where private firms are relatively active. Often national surveys are done by the national branches of international consulting firms, which are already well established and have national experts working with them (e.g. PriceWaterhouseCoopers 1999). Access to the results of such surveys is often hindered either by client-related policy (delivered only to a client, otherwise confidential) or by a strong, for-profit orientation, meaning that the price of the final product is extravagant. It is important, however, to note that private consultants often participate in open tenders announced either by public/state institutions or by agencies with international funds in both the narrowly defined applied research and in comprehensive strategic studies (e.g. Euro-In Consulting[10] in Romania, Deloitte & Touche[11] in the Czech Republic, EMOR Ltd[12], in Estonia).

7) The company survey was conducted in 1998 by the Czech Confederation of Industry and Transport, examining *inter alia* human resources development and skills needs in enterprises.

8) LSE has conducted two company surveys: *Specialities and qualifications requested in the labour market* - in 1996-1997, *and Links between the labour market and the vocational education system in Latvia* - in 1997 (Ramina 1999).

9) Latvian Chamber of Commerce and Industry organised a questionnaire survey among employers on the quality of qualification provided in existing vocational schools in textiles sector (1997) (Ramina 1999).

10) Euro-In Consulting coordinated the *Study on labour market and related implications on the manpower provision by the vocational education and training system within the framework of Phare Project No. RO9405* carried out in 1998 (Balica et al. 1999).

11) Deloitte & Touche produced *A study of needs, demand and supply of management training in the banking and financial sector of the Czech Republic* in 1996 on the basis of a contract with the national Training Fund, Phare HRD programme.

12) Emor Ltd. Conducted qualitative research among SMEs in three focus groups in Tallinn and Rakvere. The study *Training of skilled workers and personnel management of companies* (Tamm 1997) was initiated by Estonian National Observatory. Similar studies were undertaken in 1998: *Using skilled labour in enterprises* (Tamm 1998a) and *Survey on vocational schools* (Tamm 1998b).

The recent strengthening of the private sector of VET expertise (research and consultancy) is evident in all CEE countries, although the extent varies. It depends not only on the level of advancement of the country in terms of the economic transformation, but also on the state tax policy, market competition (both private and public) and the employment environment in public sector research. The private status has its own advantages in VET analysis, as it presupposes independence from state structures, and therefore, provides a good incentive for objectivity and equality in cooperating with all public bodies. However, it may impede the implementation of findings and recommendations insofar as state decision making is concerned. Some of the National Observatories or their host institutions have had or have even recently attained a private non-profit status (Bulgarian Human Resource Development Fund, Czech National Training Fund) or the status of a non-governmental organisation (Estonian Foundation for Vocational Education and Training Reform, Albanian National Observatory, Latvian Academic Information Centre, Polish BKKK-Cooperation Fund). This positive development is also a big challenge, not only for these organisations, but also to the reciprocity of society.

Civil society sector research is still rather inactive in the field of VET (unlike the social sciences in general where quite a few studies have been conducted by non-governmental organisations (NGOs). This is connected with the insufficient development of civil society institutions and the still rather 'centralised' (state oriented) mentality of the public. Nevertheless, it seems that where funds are available (often allocated from international assistance programmes), NGOs are more active. Apart from non-governmental foundations with partial foreign funding, very few significant research projects undertaken by NGOs are reported.[13]

13) One such project is the research *TOP 500 Gazety Bankowej Kadry*, which has been the first comprehensive analysis of human resources, recruitment and training provision in 500 biggest Polish companies (Drogosz-Zablocka 1999).

4.2 Financial aspects and coordination of VET research

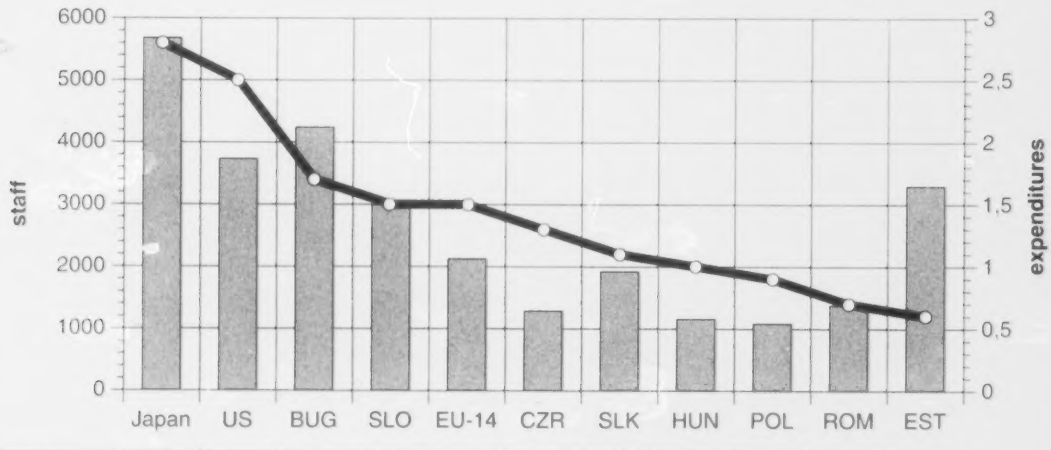
The financial constraints of the transition period affected all sides of research life in CEE. Some institutions have been closed down (e.g. Poland) or were never created after the introduction of state independence (e.g. Estonia, Latvia, Slovakia[14]). All research structures have reduced the number of staff in an effort to make research more efficient. Large research institutes were replaced by smaller, but more flexible and autonomous research units as a logical reaction to a common problem of all post-socialist countries – overstaffing and the too narrow specialisation of research structures (Bobeva 1997). The other side of the coin is that with poor economic conditions and tight budgets in the early transition period, research often failed in the category of least priority areas. Reliable data on the number of staff engaged in VET research are not available, as numerous institutions and individual researchers are involved. We assume that VET research is experiencing the same trends as research in the CEE countries in general. Aspects of financing VET research are also difficult to analyse, as information on this point is very scarce. Therefore, general data on research and development have been used for the purpose of our analysis.

> '...institutions are vastly underfunded and lack a wide range of well-qualified personnel to adequately respond to the complex needs of the VET subsector'
>
> Mustafai A. 1999,
> *VET research in Albania*

Comparing the number of scientists and engineers in research and development (R&D)

14) Slovakia and the Czech Republic are a classical example of the consequences of disintegration. Following dissolution of the federal state in 1992, there is are number of sister institutions in Prague and Bratislava, where only Prague's central VET institute (Research Institute of Technical and Vocational Education) maintains its predominantly *research* identity, and Bratislava enjoys a higher capacity Institute of Labour, Social Affairs and Family than its sister institution in Prague.

Figure 2: Research and development: Number of scientists and engineers per million people and expenditures as % of GNP



	Japan	US	BUG	SLO	EU-14	CZR	SLK	HUN	POL	ROM	EST
staff	5677	3732	4240	2998	2123	1285	1922	1157	1083	1382	3296
expenditures	2,8	2,5	1,7	1,5	1,5	1,3	1,1	1	0,9	0,7	0,6

Source: World Development Indicators (1998), pp.298-300.

per million people, we can see that the CEE-10 average (data for Albania are not available) is about 93% of the EU average (calculated on the basis of World development indicators 1998). The Czech Republic, Hungary, Latvia, Lithuania, Poland and Romania fail in the category of being understaffed. However, the number of scientific staff in Bulgaria is about twice the EU average, in Estonia – about 1.5 times, and slightly above average in Slovenia. The latter two cases are specific examples of very small countries where the reported numbers represent almost the total of the small research community there, while Bulgarian science is clearly overstaffed. At the same time, expenditure on R&D as a percentage of gross national product (GNP) in Estonia (0.6%) and Romania (0.7%) are far lower, not only than the EU average (1.8%), but also than the CEE average (slightly over 1%). In the more stabilised economies, after a sharp reduction of the number of staff at research institutions and the number of institutions themselves during 1990-1997, the number of scientific personnel has started to grow slightly since 1998 (CSO, 1999), building on the rational of development and the consequent necessity of increasing investment into R&D. Indeed, although the number of staff in research had been decreasing in all countries up until recent years, in their efforts to rationalise and make the research field more effective, investment into research increased, at least in some of the CEE countries. Nevertheless, the expenditure of partner countries on R&D still lags behind the expenditure of EU member states, approximately to the same degree as the latter lag behind US spending (2.8%)[15].

15) It is important to mention the relativity of the above statistics as the GNP absolute numbers between CEE and the EU member states differ to a great extent, which is only an additional confirmation of the poor financial conditions of science in CEE.

1304

Thus, in spite of personnel reduction, which occurred in all countries, research is still overstaffed in a few of them, although in several CEE countries the redundancy policy was exaggerated and scientific establishments there suffer from understaffing. In most CEE countries, the academies of sciences and state research institutes were mainly affected by the reduction of personnel, while staff at universities did not experience personnel redundancy to the same extent (Bobeva 1997). The number of staff / expenditures ratio still signals that, in CEE, researchers are poorly paid, and work under poor conditions with very limited funds for undertaking research. Indeed, salaries in the science sector in most countries are low and even lower than the national average salary (Poland, Bulgaria, Romania, Slovakia, Estonia, Latvia), varying from the highest paid research personnel in the region – in Slovenia, followed by the Czech Republic, and the least paid in Lithuania (Bobeva 1997)[16].

Working conditions showed the greatest variety, as revealed by Csako's survey (1998): 'Financial shortages and in some countries organisational limitations also hinder access to modern communication'. Access to modern technology, software, the Internet, the results of international research, etc., directly influences the mode of work undertaken by researchers in CEE (see table 5 on the rate of Internet usage in CEE). The financial constraints of the transition period imposed particular difficulties on the development of research and often prevented the initiation of innovative research projects. In many cases, financial constraints on research activities, low salaries and poor working conditions led to an outflow of experts from the research field and for the most part into the private sector. The big difference between the number of employed researchers and those working on research projects, discovered by Csako (1998), 'supports the assumption that in transitory conditions, with restructuring institutional system, there are far too many factors to keep even prominent VET researchers outside VET research institutions' (p. 16). The situation is so complex that even directors and senior researchers can be seen undertaking private activities at the same time (Csako, 1998). They are mostly involved in research or development projects, conducted by other agencies, and financed either by national sources and granting schemes or, even more frequently, by international ones. This issue is not obvious, and the consequences are rather ambiguous. Indeed, on the one hand, involvement in work of other institutions and especially international projects increases the mutual awareness of ongoing projects and interinstitutional co-operation. On the other hand, it leads to a de-concentration in the work of researchers and the atomisation of the scientific aspirations of research institutions.

The wage gap between the East and the West, as well as the other factors mentioned above, also creates a high incentive for emigration. Research on a problem of the brain drain and brain waste in the period of transition has been largely neglected. The only exception was Poland, where the massive emigration of scientists had been an issue even before initiation of the reform process. In 1997, the European Commission – DGXII supported a collaborative survey carried out in ten CEE countries within the framework of the COST programme (Bobeva 1997). The main findings showed that the highest volume of emigrating scientists out of the overall outflow from science between 1989 and 1995 occurred in Poland (15%), Estonia (14%), Bulgaria and Slovakia (above 11% in each). It is worthy to note that all four countries also belong to the group where scientists' salaries are below the national average. Most of those who emigrated were young (mainly between 30 and 40), with a high professional profile, and prevailingly in possession of doctoral degrees. The analysis of the situation in Albania showed an even more dramatic situation: nearly 15% of the entire population, the most active and qualified, emigrated to neighbouring countries (Mustafai 1999).

The report revealed, however, that internal migration of scientists was a far more signifi-

16) The data used by Bobeva (1997) are outdated (1993) but wage statistics show that the trend remained the same. Data for Albania are missing.

cant problem for the countries than external migration. The internal outflow (internal brain drain) mostly occurred in the direction of the private sector and self-employment, but also into other research institutes, government administration, or unemployment. Unfortunately a large part of the outflow from science proved to be not only a real loss for science, but also a brain waste. Part of the internal brain waste was an outflow into types of work with lower qualifications in the private sector and into entrepreneurship for the sake of higher income. Moreover, the mass outflow of scientists could not be fully absorbed by the labour market, and a considerable proportion of the outflow from research is reported as being unemployed: in Bulgaria – 28% of the outflow, Latvia – 9%, Slovakia 8%, Estonia 4.5%, and Romania 3%. The brain drain primarily affected the natural and technical sciences, but also, though to a lesser extent, social and economic sciences (Bobeva 1997).

Although the outflow of scientists from the sector is declining as a result of stabilising factors, the problem remains significant. At the same time, the opening of borders and the intensification of research cooperation has changed profile of migration of researchers: the number of scientists employed abroad is increasing (especially in Poland, Hungary and the Czech Republic), where short-term employment or involvement in research projects abroad are especially widespread (Bobeva 1997).

Coordination mechanisms of VET research at a national level vary among the countries. Whatever the mode of research organisation and its coordination at the decision-making level is, coordination was reported as either insufficient or entirely missing in all CEE countries. The problem of research decentralisation was understood by national experts in two distinctive ways: the first tackled general institutional and administrative decentralisation of the state as an integral part of the reform process (positive connotation); the second associated decentralisation with the highly scattered VET research function and very poor coordination of projects among numerous institutions involved (negative connotation). The first meaning was referred to by all CEE countries as virtually non-existent or negligible, while many countries reported the second one as a serious obstacle to greater transparency and cooperation between the institutes. It is peculiar to see that in the countries where VET research is in fact highly centralised and very close to the state sector, a lack of coordination (even under one and the same ministry!) and cooperation between different institutions was reported (Mustafai 1999). The reform process has imposed certain improvements in inter-institutional cooperation, noticed in recent years (Drogosz-Zablocka et al. 1999).

> 'In Poland state budget resources for R&D activities form above 60% of all R&D expenditures, and this is far more than in European Union member states. For comparison in EU member states state budget funds for R&D reach about 40%, and in OECD countries – about 33%.' [Translation by OSI].
>
> Drogosz-Zablocka et al., 1999, *VET research in Poland*

Research into VET in CEE countries is predominantly funded by the state budget and concentrated around the main VET (research) institute or several institutes (e.g. institute of pedagogical studies, adult education centre, etc.), mostly financed by the Ministry of Education. Research into the labour market is mostly organised around the institute, studying issues on the labour market and social aspects, and financed through the Ministry of Labour. This arrangement leads to the fragmentation of research, lack of intersectoral collaboration and a lack of contextual perspective in narrowly defined (as determined by sectoral bodies) research topics.

Research in general is normally regulated by the law on research (Estonia 1995, Czech Republic 1992 with amendment in 1995, Slovenia 1991, Lithuania 1991), although not all countries have reported so. The laws define the status of executive, administrative and advisory structures in the field of research and development, and main financing principles and methods (including granting procedures where available). The state usually provides seed funding for research institutes,

136

financing its current expenditures and the salaries (fully or partially) of the personnel. Financing is channelled through relevant sectoral ministries, and therefore in the case of VET it is mostly the ministries of education which finance and request for research. Project funding comes from national grant system, state research orders (e.g. ministerial), and significantly from international assistance programmes. Universities as independent entities receive financing for their teaching and research activities as part of their budget (allocated through the ministries of education), but can also apply through the national grant system or participate in tenders for the announced research project. Institutes of academies of science receive separate funding allocated for this purposes out of the state budget.

As the ministries of education are the main funding source for research in education, some countries have an executive body which runs grant procedure under or within the ministry (e.g. Estonian Science Foundation, Grant Agency at the Czech Ministry of Education, Polish Ministry of National Education. the Romanian National Agency for Employment and Vocational Training.): announcing calls for tender, allocating competitive research grants on the basis of peer reviews, monitoring projects and in some countries also identifying the research priorities of the subsector in the coming period. Similar executive bodies operate under other ministries. Their linkage to state level advisory or another type of body (e.g. Governmental Council on Research and Development in the Czech Republic, Estonian Research and Development Council, Polish Committee of Scientific Research, Romanian National Agency for Science, Technology and Innovation, Lithuanian Council of Science, Slovak Council for Research and Technology) is to provide coordination at a national level, avoid duplicity in project funding and ensure transparency on research projects already available. Even in countries that have such arrangements it does not seem very efficient, as coordination has been noted as being weak in all countries. The mere existence of research coordination structures at the national level, however, does not mean that they allocate funding or announce research projects in VET (e.g. Poland) and sadly enough they almost never have any reference to VET research.

The crucial question remains as to how these bodies can be made functional and integrate VET issues. Perhaps these structures with a complex hierarchy have become too bureaucratic to be efficient, or VET research has not been a priority. Moreover, coordination of research in the ministerial domain is not beneficial enough for such a multidisciplinary field as is VET. It would seem that the nomination of one of the existing VET research institutes, or even the establishment of an intersectoral group of VET experts and the subsequent nomination of them for the task of coordination, could be helpful, in this way separating the coordination function from the bureaucratic machine. This has been partially achieved in Lithuania where no coordination specifically for VET research is foreseen at the state level. The Centre for Vocational Education and Research (Vytautas Magnus University) is coordinating research in the field of VET, while other leading institutions in the field of VET are responsible for VET policy formulation VET (Lithuanian White Paper 1998). The establishment of coordination structures or the improvement of the existing coordination framework is especially important for Latvia and Estonia, where no major VET institute which could be a focus for all major VET activities in the country exists.

Information provision on the existing or completed research projects is achieved by constantly updating databases, mostly operated by the same (executive or advisory) coordination structures (e.g. Poland, Czech Republic). Without questioning the value of such information systems, we would however stress the importance of broad information provision for the public. This can facilitate not only the mutual awareness of institutions about the research work in the country, but also may help to identify potential partner institutions and individual researchers for future projects, and consequently facilitate cooperation. Some institutions have been publishing for these purposes periodicals with information about ongoing projects and their outcomes. These

periodicals mostly remain based around a single institution and a central scientific magazine in the field of VET research is rarely available (the exception is Lithuania where the journal *Vocational education: research and reality* covers the entire VET research field in the country (Gurskiene 1999)).

The declaration of national priorities for research in general is rather common for the whole region, but the definition of priorities in VET research is systematised only in a few countries (in the Czech Republic, Slovenia, Latvia, Romania and recently partly in Poland), though mostly done at the ministerial level without the involvement of other interested parties. Slovenia, for instance, has a National Research Programme, enacted by the parliament, which defines public service in research activity with a definition of the aims and extent of particular disciplines (VET is part of social science research in the programme and deserves about 8% of the budget earmarked for research activity) (Ivancic et al. 1999). In Estonia, identification of research priorities is done in a more 'informal' way through discussion among VET actors in the Estonian Education Forum and subsequent statements on future priorities for research. The latter approach is acceptable as it brings about at least a certain level of consensus, while the mere declaration of research priorities at the political (decision-making) level does not mean that there had been any *identification process* with the involvement of different experts and other actors in VET. In Lithuania, future research priorities were defined in the White Paper – EU Phare 1998, which also presupposes a prior discussion process.

The research institutions and universities in Poland that conduct research projects from their own main budget turn to their founders with the request to define research priorities, but in the end they usually define them themselves. This all leads to the fragmentation of research topics and demonstrates a lack of *policy* in the field (Drogosz-Zablocka et al., 1999)

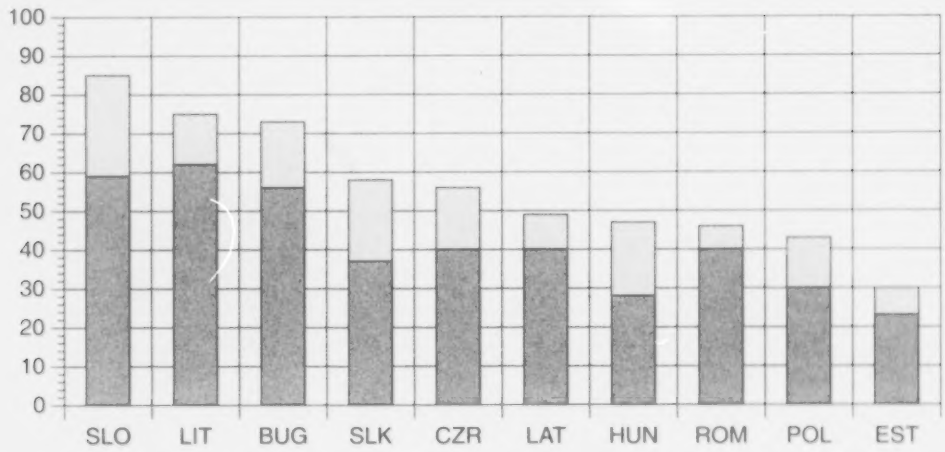
National 'granting' procedures seem to be rather rigid, whereby the majority of research is done either on the basis of an addressed order to a particular institute or on the basis of terms of reference with a tender procedure. There are very few cases in which the state defines only broad research fields (priorities) and announces open calls for proposals. This is the case of Slovenia and the Czech Republic. The former runs such granting procedures for broad intersectoral topics, the latter may change the system due to low transparency and poor practical outcomes of such 'ground-generated' projects. Both of the countries attempt to promote inter-institutional cooperation, taking into account the intersectoral nature of VET research. A balance must be found between assigning the research tasks and allowing the institutes to generate the project according to their understanding of the current needs in research fields broadly defined by the state.

In Albania as in other CEE countries, ministries are the main clients that determine studies at research institutes, but there is no system of national granting procedures for undertaking research in VET (Mustafai 1999). In general, the role of national actors in VET research in Albania was reported as very limited for two main reasons: financial constraints and the absence of the habit of analysing the situation before making a political decision (Mustafai 1999). 'Scientific' culture in political action and rhetoric is still rather low in CEE, and in Albania in particular.

4.3 Role of international activities

As we have seen, the issue of the outflow of researchers from science is directly connected to the level of salaries among researchers, and also to the volume of investment in research. In a period of economic hardship, assistance to research and development by international donor organisations has become indispensable. D.Bobeva (1997) in her synthesis report comes to the conclusion that while the long-term migration of researchers is mainly in the direction of the USA, the exchange of research contacts and cooperation in general ('brain exchange') is more intensive with EU countries. This tendency is reflected in the volume of financing research within the framework

Figure 3: Scientists working on projects financed by EU and USA (%)



	SLO	LIT	BUG	SLK	CZR	LAT	HUN	ROM	POL	EST
EU-15	59	62	56	37	40	40	28	40	30	23
USA	26	13	17	21	16	9	19	6	13	7

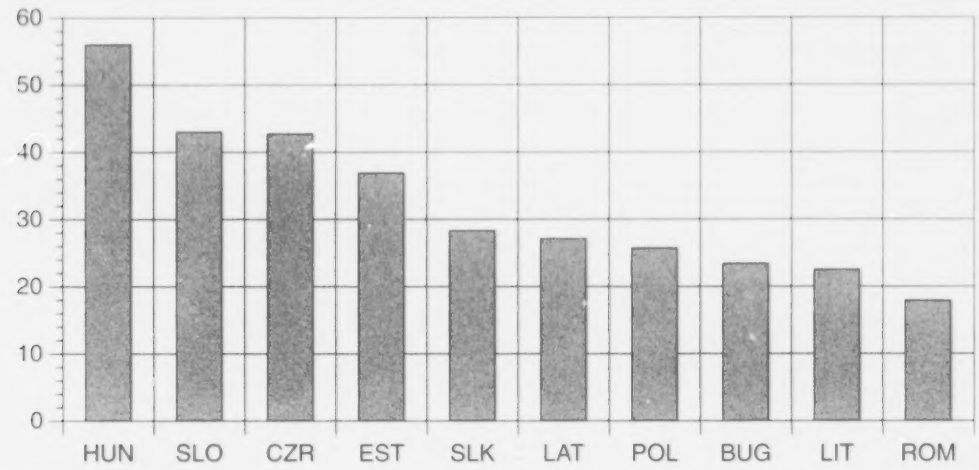
Source: Brain drain survey, Bobeva (1997), p.21.

of support programmes by the EU and the US. In all CEE countries, financial support from the EU has been far more substantial than from the USA.

Financial support from international donors has often been a major source of sustainability for research institutions and researchers themselves. We would have suggested that this has especially been the case in those countries where national resources have been very limited, but the available data do not actually confirm this. Only some donor organisations have clearly identified priority regions, based on the principle of aid intervention in areas with worse economic conditions (e.g. USAID was one of the major donors in early transition years in Central Europe but with an improved economic situation and a pre-accession status of these countries, USAID moved its priorities further to the East). As the EU Phare assistance programme has been the major source of financing in the majority of the countries, and because its assistance has been largely aimed at preparing the CEE countries for the entry and harmonisation of their systems with the EU, Phare did not have a preferential funding policy for more deprived countries. The share of the interviewed scientists in the aforementioned brain-drain survey (Bobeva 1997) involved in a joint research project with Western institutions was also the highest in Hungary, Slovenia and the Czech Republic (table 3).

This shows that the farther along the country is in the process of EU integration, the higher the volume of joint research projects. This is also influenced to a great extent by eligibility for the EU programmes (not only Phare but also Tempus, Leonardo da Vinci, Socrates, Youth for Europe, etc.), and especially by the momentum brought about by the enactment of full membership. There has been a certain level of spontaneous coordination at the international level. Where Phare funds were not a major source of support for VET reform, the World Bank or another donor

Figure 4: % of respondents participating in a joint research project with western institutions



Source: Brain drain survey, Bobeva (1997), p.21.

(ILO, UN, Soros foundation, etc.) took the lead (e.g. the case of Albania). In some countries also the World Bank loan funds were supplemented with Phare funds to run a more comprehensive national reform of VET (e.g. Poland). Research cooperation is dependent on access to international programmes, but also on information availability and efficiency, the preparedness of the institutional and legal system to incorporate and market international programmes, and to some extend on the traditional openness of the research community to such cooperation.

The role of international donor organisations in research in general and in VET research in particular has been highly appreciated by all countries (Country overviews of VET research (see list of background reports 1999 on first page); Bobeva 1997; National Observatory country reports 1998). The issue of coordination and transparency is less positively referred to, with frequent criticism of the duplication of funding, the lack of information, and especially in the case of bilateral projects, the lack of coordination with national priorities.

All countries, with the only exception of Albania, reported the Phare VET reform programme as the major reform source and often a driving force of change and innovation. Reforms of vocational education and training systems, which took place between 1990-1998 and were supported by Phare, served as a catalyst in curriculum development primarily in the area of initial VET, in the training of school staff, the upgrading of learning equipment, the involvement of social partners in policy and needs formulation, the evaluation of programme results and the drafting of policy papers on further reform steps. The Phare supported reform in VET made an attempt to initiate systemic reform through the development of a new curriculum reform model in a limited number of pilot schools. 'The model was imported from EU countries and, though ideologically attractive, paid little attention to the specific transition conditions of each individual country' (Parkes et al., 1999, p. 30).

The extent to which the research component was present in the reform process varied from one country to another. All programmes started up from some sort of prior analysis, in which the Western consultants normally participated directly or which they mainly carried out and involved the participation of national experts. The analyses were aimed at an assessment of the national VET systems, the institutional and socioeconomic conditions in the countries, as well as at a comparison of existing systems and arrangements in the EU

1310

member states as far as their appropriateness and feasibility for implementation in partner countries was concerned. 'One of the main drawbacks of the first phase of vocational education and training reforms in some of the Central and Eastern European countries is the fact that reform programmes were generally launched with little labour market information' (ETF 1999a, p.15). Indeed, although all reform programmes started from an elaboration of the conception and analysis of the labour market and general socioeconomic and demographic developments, information on trends in employment and prospective information on the labour market was very limited. Indeed earlier Phare VET programmes possessed a thorough concept of the reform, derived from the long-standing needs of education and from a pro-Western model of development. But the analysis of the transitional nature of socioeconomic developments, employment prospects and the changing nature of employment were not sufficiently considered. Sometimes this was taken into account during the following phase of the programme, when a series of feasibility studies and system assessments (e.g. UPET programme in Poland in 1992) and subsequent needs analysis (MOVE in Poland in 1993) were conducted (Dlugokecka et al., 1996).

'The fact that the Strategic Study was prepared by foreign experts in close collaboration with Czech (and Slovak) professionals contributed to the high quality of the Study and at the same time the broad professional public was made aware of the modern approaches to the issues at hand applied in developed countries as well as of the knowledge and experience in these countries'

(Grootings and Kalous et al. 1997, p.179)

Both Czech and Slovak reforms emerged out of the Strategic study of vocational education and training, developed jointly by foreign (Birks Sinclair and Associates Ltd., 1993) and national experts, which 'presented the first comprehensive view of the issues of VET after the political turnover of 1989' (Grootings and Kalous et al. 1997, p.178). The analysis of the advantages and disadvantages of the then existing VET system was performed against the background of social, economic and political conditions. The study remains one of the most respected pieces of analytical work in the countries up until now, and one of the strong aspects of its methodology – collaborative research between foreign and national experts – has been noted many times as its convincing advantage. The study naturally lacked a thorough analysis of current and upcoming employment trends, as these data has been largely missing in both countries.

Later Phare VET reform programmes paid more direct attention to the analysis of employment trends, maintaining labour market analysis as a component of the programme (e.g. Romania, and recently FYROM). For instance, the Romanian *Study on labour market and related implications on the manpower provision by the VET system* (CNA Veneto Euro-In Consulting 1998) attempted to substitute the lacking prospective data on labour market trends with specific field surveys, measuring a) the occupational supply of vocational school graduates, and b) labour demand by occupations in stock and flows.

The aforementioned study and others like it attempted to outline the main systemic drawbacks and suggest reform steps leading to a more flexible VET systems and curricula through implementation in a decentralised manner via selected pilot schools. At the end of the programme period, each country conducted an evaluation in which the main results and findings were assessed with respect to European developments in the field of VET. This programme component involved a great deal of research and was very important from the point of view of subsequent political development, outlining the future steps for national implementation.

The pilot character of the reform, though attempting to address systemic problems, has had certain limitations. Without trying to depreciate the added value of the reform programme, it has certainly been difficult to mainstream the specific achievements after the programme's completion. The countries that succeeded to actively involve decision making and a broad spectrum of social partners at an early stage in the programme, and that managed to reach a consensus on the future of reform, have been doing better in im-

plementing the results nation-wide. Indeed, the innovation of curriculum being run in some 20-40 pilot schools in a flexible decentralised manner certainly brings about an added value, but if the approach is not disseminated at a national level, then the value of the project runs out. Paradoxically the problems of mainstreaming the achievements of Phare (and other) reform projects could be at least partially connected with the direct reproduction and testing of the foreign experience in a sample of schools, where the reform could be seen as something not developed nationally but copied from abroad. The reform models paid insufficient attention to the specific transition conditions of each individual country (Parkes 1999). The eventual success of the implementation of achievements at the national level not only involves the recognition of findings and the consensus regarding the issue, but also involves the question of existing institutional frameworks (and consequently often a need in institution building), reform of other integral parts of education system, mentality of all actors involved, and allocation (or the very existence) of financial resources.

> 'VET development projects funded by international donors are normally anticipated by a preliminary research phase to clarify the objectives of the projects and to appropriately define the activities, partners, time schedule, budgeting etc. In the majority of cases there are foreign specialists that lead this process, cooperating with Albanian specialists or local experts that normally have a second hand role (as a source of information). In some cases, this phase is neglected or underestimated and has resulted in not realistic project documents and weak results on the application of it. One of the main weaknesses experienced during the conception and application of bilateral and international VET projects in Albania is *not taking sufficiently into account all the aspects of the Albanian context*'
>
> Mustafai A.1999,
> *VET research in Albania*

In spite of the few drawbacks of the Phare supported VET reform programmes in CEE, the latter are seen as success stories in all countries, and the role of Phare as the main or sometimes even the only VET reform initiative is widely acknowledged. A peculiar case is Albania, where Phare VET reform in comparison with other international assistance projects, has played a very limited role (presumably due to the fact that Albania does not belong to the pre-accession group of partner countries). The Phare VET reform programme was postponed for several years and was finally rushed through in 1998, making it impossible to fully accomplish the objectives that had been started in this country rather late (Mustafai 1999). The research component of the project was vague, particularly represented by an attempt to introduce a new approach for market analysis. However, in a later Phare project, which aimed at piloting a modular curriculum system in Albania (ALBAVET), research played a more substantial role (Mustafai 1999). The adaptation of the Scottish model for the development of vocational qualifications, registration, accreditation and certification, and in conformity with the Albanian context, has demanded research (still ongoing), in which the national institutions are fully involved (Mustafai 1999). Although the Albanian background study is far more critical towards the way foreign assistance reform programmes have been organized and coordinated than are reports from other countries, generally it is admitted that VET research in Albania is almost entirely financed by foreign donors. The limited national funding is used to cover the salaries of state research institutions, and foreign assistance is used for research activities, allowing for normal operations (Mustafai 1999).

Another major, international, expert contribution has been the involvement of some of the CEE countries in the OECD analyses. During the last six years, several countries were engaged in Reviews of national policies on education, labour market analysis, analyses of aspects of transition from school to working life and of the financing of life long learning. All these studies have been done on the basis of background reports produced by national teams with a subsequent analytical reflection (reviews, country notes, comparative reports) of the OECD experts. It is important to note that OECD does not finance projects, and the primary value of its involvement is precisely the expertise, collaboration

of national and OECD teams, the exchange of knowledge and ideas, recommendations, discussions with national decision making bodies, and the professional follow up on the implementation of proposals. The OECD analyses are among the most comprehensive studies that were produced in the region at the beginning of transition, viewing the VET system as a part of the entire system of education and life long learning in the context of changing labour market conditions. Many of the recommendations produced in 1995-1996 remain acute and significant until even now. This certainly is true of the majority of recommendations produced within the context of the reviews of national policies of education (OECD 1996a, Bialecki ed. 1996), especially in the case of the Czech Republic. Many recommendations have been closely linked to the need for institution building in the field of VET (Czech Republic), which requires substantial financial resources or a radical reorganisation of existing institutional structures. Therefore, the implementation of these recommendations is hindered by the lack of consensus at a national level as well as the lack of financing required for the implementation of such demanding reforms. In 1998-99, Slovenia (OECD 1998), Latvia, Estonia and Lithuania benefited from participation in the OECD education policy reviews (in the latter cases the drafts are not officially available yet). OECD also produced many comparative studies, either examining only a few countries of the region within a bigger, international group (OECD 1999, Green A. et al. 1998), or examining the CEE region with the involvement of all countries (OECD1996b). The comparison with other CEE countries and advanced democracies has been a very useful benchmarking attribute of OECD studies.

The World Bank has also contributed to the comprehensive analysis of VET and the labour market in CEE: it started with a comparative analysis of the systems in the region (The World Bank 1995); its loan programmes have substantially contributed to an up-grading of VET systems in some countries (e.g. Hungary); it has been a major reform driving force and implementation tool in the countries, where Phare funds were limited (e.g. Albania).

Another principal contributor to transparency and a greater comparability of CEE vocational education and training systems and matters is the European Training Foundation. It has been operating actively since 1995 in close co-operation with national experts. The creation of a National Observatories network in 1996 brought about a standard comparative perspective in studying major VET issues, a comprehensive understanding of the VET system in the wider context of the labour market, and continuity by following main trends and indicators in VET and the labour market on an annual basis. ETF projects attempted to narrow the gaps in VET analysis in CEE. During recent years its projects concentrated on studying the role of social partners in VET within the CEE countries, systems of continuing vocational education, standards, employment policies, teachers and trainers training, tertiary professional education, VET in the context of regional development in the partner countries, etc. ETF has contributed to the coordination of donor activities in some countries by organising donor workshops (e.g. Albania 1997). It has supported preparatory activities for the initiation of the Leonardo da Vinci programme and directly participated in the implementation of the Phare VET reform programmes in CEE countries.

Despite the indisputable great value of the ETF activities in CEE, there have been certain drawbacks, often noted by national contributors. The ETF became operational rather late and the changes in partner countries that occurred between the decision to establish the ETF (1990) and its actual operational start up (1995) were already enormous. In this situation the ETF had to define its role in the development process when transition was already well under way and many structures and concepts were already in place. At the same time, the initial transition period in most CEE countries was largely undertaken on the basis of bottom up initiatives, spontaneous developments and often intuitive thinking in the situation of the lacking conceptual vision of the education and training reform at the central level. This shortcoming was tackled by the ETF through the introduction of analyses and recommendations within the many dimensions of VET. The main reason

1313

behind the occasional criticism of these efforts seems to be the ETF's endeavour to run many projects with relatively limited funds and very short time frames. This approach resulted in a certain fragmentation of projects and tasks. The projects aimed to tackle the most urgent areas for reform and were expected to have immediate results, i.e. recommendations for future reform steps. The latter approach has been rather typical for the internal mechanisms of support of the CEE research at the national level as well. This sometimes led to a lack of support for thorough theoretical research *per se* in CEE, which would be necessary in the future, but lies beyond the scope of the Foundation's activities. Early announcement of the planned studies and projects and subsequent agreement at a national level (sort of OECD model) may facilitate not only a consensus and, consequently, the success of project implementation, but also co-funding from the national sources.

As the ETF is not directed at supporting research projects and infrastructures, the studies produced under its auspices have been of a mainly developmental and applied nature. Therefore, as it has been mentioned above, there has not been support for basic research in the field of VET in CEE. In 1998, the ETF initiated assessment of research institutes in CEE (Csako 1998) with the view to establish a network of such institutes in CEE and the CIS. Support for research agencies was limited to a marginal contribution for the initial sustainability of the CEE Club for VET Research Institutes (exists since 1995) and (co-)financing of meetings of researchers. However, the very establishment of National Observatories in the countries where research institutions had been missing contributed to the revival of VET research there. The ETF also supported the present overview of VET research in CEE, and in general intends to assist in strengthening the research function of National Observatories, an initiative received very positively by NOs themselves. A wider involvement of the research community and support for research projects, including fundamental research, would be desirable.

CEDEFOP maintains long-standing cooperation, albeit still limited, with research institutes and independent researchers in CEE. Between the two EU decentralised agencies that deal with VET in synergy but with a different mandate and scope of activities, it is CEDEFOP which is the more *research* oriented and has well established links with the leading EU *research* structures. The CEE countries would certainly welcome more extensive cooperation with CEDEFOP and its partners in the research field, while further cooperation with the ETF in applied analyses and development projects would be necessary also beyond the point of EU accession.

A big step forward in knowledge and methodology sharing between member states and partner countries has been the gradual opening of the possibility to join EU programmes for CEE countries (Socrates, Leonardo da Vinci, Youth for Europe, Research Framework programmes). Of special importance for VET research has been the Leonardo da Vinci programme, with its Surveys and Analyses (S&A) strand, opened to partner countries during 1998-1999[17]. Unfortunately so far there has been only one call for proposals in this period, which allowed for applications under the S&A strand. The data on recent calls is very scarce and does not allow for a comparison of the share of S&A projects out of the entire number of approved projects in member states and in CEEC under the same call. The most recent project compendium refers to the 1997 call, in which CEE countries still held primarily the roles of associate ('silent') partners and could not promote the projects. Thorough information on the 1998 Call is not yet available.

As a result, we could only compare the results of the 1997 Call for member states and the 1998 Call for partner countries[18]. The share of S&A projects within the total number of

17) Although Pilot Projects – another type of the Leonardo da Vinci projects – also often contain a research component, their primary objectives are innovation and development, and analysis often present there is only a tool (assessment, comparison, etc.) for application.

18) Information on the 1998 Call - S&A successful projects – was collected with the help of the Czech national Resource Centre for Guidance through National Coordination Units.

projects is traditionally low in all European countries, which is possibly due to the relative complexity of the application requirements in the S&A strand. In 1997, this share was 7% in all participating countries, which corresponded to approximately two to four S&A projects per country with population of 10 to 20 million people (Compendium 1997). In CEE we could identify only two S&A in the whole region: one in Romania and one in the Czech Republic. In the latter case, this corresponds to an approximately 1% share of S&A projects out of the total number of approved projects in the country under the 1998 Call. It is worth noting that both institutions that generated and submitted the successful S&A project bids possess considerable previous experience in international cooperation and presumably a capacity for project generation and management skills. Needless to say, the excessive complexity of procedures in project administration and financial management often hampers participation of institutions in such programmes. Project management capacity and foreign language skills are insufficiently developed in research (and other) institutions in CEE, and deserve special attention at all levels so that it will be possible to benefit in the future from the EU programmes.

Participation in such programmes is invaluable as it supports the 'brain exchange' (one should not omit mentioning the special importance of the TEMPUS programme in this respect), the sharing of scientific knowledge and research tools, and a from the ground up initiative in project generation. If the national decision-making bodies succeed in defining the priorities for international programmes in accordance with national priorities, such participation also turns into a direct contribution to the reform process at a national level, and makes available funds that are otherwise limited. The definition of national priorities is especially important in the case of EU programmes, as governments allocate financial means for the programme each year.

Among the reporting CEE countries, it seems that Romania has paid significant attention to the development of a strategy for identifying national priorities for the Leonardo da Vinci II programme. This country initiated the *Study on national training priorities*, which is being elaborated by the Romanian National Observatory with an extensive inter-institutional team (Balica et al. 1999). By means of a survey, case studies and an analysis of available data and national legislation, the team intends to examine the needs of the labour market in terms of qualifications and competences, the mismatch between demand and supply, and training needs for specific disadvantaged groups on the labour market. Such a systematic approach to the identification of national training priorities could be used well beyond the preparation process for Leonardo II. It seems that the country, being in the situation where World Bank funds have ceased, has also made a substantial effort to introduce the coordination and transparency of various funding sources in VET by creating the National Centre for the Development of Vocational and Technical Education (Balica et al. 1999). Romania is a good example of the utilisation of the main conclusions from the evaluations of Leonardo I (Birzea et al. 1999) and Phare VET programmes for the formulation of future strategy and priorities.

'So far, in Romania there is no strategy meant to utilise the recommendations and conclusions of international research programs. We notice an insufficient correlation between the studies and analyses resulting from the implementation of international grants and programs, on the one hand, and the research activity carried out in specialised research centres and institutions, on the other hand. In some cases, substantiating new projects does not benefit from the conclusions of the external efficiency of some finalised projects or the conclusions of fundamental research in the field.

With reference to *the activities for continuing the programs*, evaluations have highlighted the fact that some projects often have a reduced capacity of adjustment to situations undergoing change, in the sense that they tend to be carried out according to the logic of the initial context that generated them. The mode of administrating the projects is often centralised and continuation of the projects is extended in the immediate proximity of co-ordinating institutions, without involving other interested partners and institutions'.

Balica M. et al. (1999),
VET research in Romania

Assessing the general impact of international assistance in the field of VET, with a specific reference to research, it must be said that the overall outcomes are invaluable. However, certain steps could be taken to improve the efficiency of international assistance and matching it to better meet with the national needs. It is necessary to concentrate on the support of development follow up projects, aimed at the implementation of research findings and recommendations. However, it is also important to strengthen the research component of development projects. The early involvement of the local/national experts and institutions at all steps of programme implementation, including the planning stage, strategy elaboration, analysis and research components, is crucial, as it is the key to reaching consensus at a national level, with the direct involvement of all actors, and consequently also the key to effective implementation. At a national level, there must be mechanisms for coordination in order to increase the transparency of research projects already undertaken with international assistance, to avoid duplicity, and to ensure that the national priorities are taken up.

Since 1990, the CEE countries have undergone several phases of transformation, and in each of them the role of international assistance was different. The initial phase was largely defined by enthusiasm after the collapse of the totalitarian regime, and was characterised by spontaneous developments, decentralisation and ground up initiatives. Deep confidence in the legitimacy and the universal value of the Western democratic approaches and traditions in education on the one hand, and a high degree of interest and good will among international donor organisations and experts on the other, drove foreign experts into CEE *en masse*. The majority of comprehensive analytical works during this period were undertaken by or with the help of international experts. In the second half of the 1990s, and especially during recent years, the countries began to formulate national strategies and priorities in a more systematic way. The reform process had been more regulated with from the top down approaches more clearly articulated. The international assistance and research engendered in its framework during this period mostly appeared to be a joint product of international experts and national teams.

At present, the countries are experiencing the reinstitution of their own traditions and values in education with a more cautious attitude towards foreign advice. The contemporary challenge is the elaboration of clearly defined and comprehensive national priorities and strategies. The latter development appears 'as yet another logical step in the overall evolution of research of this topic – i.e. a step away from individual pieces of research of partial issues undertaken by national professionals, possibly in collaboration with foreign experts, or its comprehensive examination undertaken exclusively by foreign experts' (Grootings and Kalous et al. 1997, p. 183).

5. Systems, concepts, requirements, arrangements: what does VET research in CEE enquire into?

In this section we shall look at the range of topics encompassed by the CEE researchers in the field of VET in recent years in two broad areas: research into VET and contextual research. The overview given herein is far from being exhaustive. Instead of giving a detailed inventory of the research projects in CEE we try rather to see what sort and range of questions are asked by the researchers there, to what extent they tackle the CEE reform dimension and how they cope with the global changes. This approach would assist understanding whether the CEE research has actually supported the national reform process, and whether it manages to follow the scientific argument in other countries. Nevertheless, the line we have embarked upon is illuminative rather than informative or evaluative.

5.1 Research into systems in the lifelong learning perspective

It was not the end of the communist regime that suddenly made people realising the need

for the reform of education and training. In the 1980s in many countries of CEE there was a lively debate about the need to reform the system. It was also realised that such reform was especially needed in VET, the social esteem of which was very low. Too narrow specialisation, poor training facilities, inadequate teaching quality, were all seen as features that hampered the provision of skills adequate to the economic objectives and development of new technologies. At the beginning of the reform process the countries faced the challenge of the new, market oriented, economic objectives and the need to reform the VET provision to trigger off the overall reform process. There was no deliberate planning on the government side though, and the VET experts simply looked at VET systems in the advanced countries in order to obtain a benchmarking perspective.

Comparative analysis of VET systems, therefore, has become the most frequent topic in CEE as well as among international organisations analysing the CEE systems throughout the 1990s, ranging from a comparison of system organisation, administration and legal provision to financial arrangements, the system of social partnership, curriculum policy, and segments of education and training (e.g. CVT, tertiary education). It is important to note in this context that the CEE research has been rather concentrated on comparison of the systems of the advanced European countries aspiring toward future reform steps, while the international research analysed mostly the progress made by the CEE countries, and thus compared them to each other. The latter appeared as being a form of the reform progress assessment. The former type of comparison has somewhat neglected the debate about advantages and deficiencies of systems, taking place in the EU member states on the research arena; pros and cons of each of the systems were considered at first glance without concentrating on the in-depth analysis of the suitability of the system to the country and without following a multifaceted scientific argument taking place in the West.

The National Observatories of the Baltic countries with the support of the ETF and in the light of *the Common education space agreement* between the three Baltic Countries, carried out comparative study on the VET systems, legislation and regulated professions between the countries. The report has been the first attempt of the Baltic National Observatories to compare VET related issues.

National Observatories of Estonia, Latvia and Lithuania, 2000.
Comparative analysis of VET systems and regulated professions in Baltic states.

The initial VET is provided in two basic types of schools: the secondary technical/professional schools, providing qualifications of technicians and white-collar workers (four to five years of studies), and vocational schools leading to the skills level of blue-collar workers (one to three years of studying) (see annex 2). One of the common features of the process of restructuring of VET systems in CEE was elimination of the strict division between the two types of VET, introducing the combined programmes, diversifying the range of choice among educational programmes, and providing vocational types of programmes leading to complete upper secondary education (*matura*). The general positive trend has been an increase in enrolments in the programmes that provide higher qualifications.

These positive systemic developments, however, occurred against the background of changing economic conditions of the VET system, where former ties between schools and enterprises were impaired and a former semi-apprenticeship system was damaged or completely abandoned. The former system of (semi-)apprenticeship itself, though it provided necessary work experience and linked trainees to their potential workplace, had a dubious character. The central point was not the learner, and therefore the form of apprenticeship was not intended to ease youth transition into working life but to provide the state enterprise structure with a workforce (Grootings 1998).

With the collapse of the state enterprise structure, the CEE VET systems found themselves almost exclusively school-based (Baltic countries, Albania, and Bulgaria) or enjoyed only very limited enterprise participation in the

model (Czech Republic, Slovakia, Poland). This has increased the danger of skills provision at schools being irrelevant to the labour market needs. Only two countries – Hungary and Slovenia – managed to re-introduce elements of the old (pre-Soviet) tradition of the dual system.

Yet in the CEE research, unlike that in the West, the discussion about alternatives of integration of work and learning into the VET system has not been adequately addressed. Indeed, the different analyses of responsiveness of CEE systems to the new economic objectives and requirements of the labour market demonstrate the need for higher proportions of vocational theory subjects in the content of education on the one hand, but on the other hand the necessity to provide adequate practical training and work-based learning. The latter can and is provided in a variety of forms (enterprise training, enterprise-based workshops, school based workshops, creation of intermediary labour markets, etc.) but there is no assessment of such practices, especially in the private sector (Romania).

The international research and rhetoric in the field of the changing role of the school – from being a mediator of knowledge to becoming a mediator of knowing how to apply the knowledge – and the changing role of the workplace – from an end in itself for knowledge application per se to the learning organisation – has not influenced the research debates in the CEE countries. A certain improvement was stimulated by preparation and then first phase of implementation of the project *Integration of work and learning* in the two countries.

Integration of work and learning is a three-year development project, initiated by ETF and implemented through the national teams in Hungary and Slovenia. The project will be completed in 2000. The project seeks to support and supplement innovative VET actions in the field of the integration of work and learning; to improve the conditions for further integration of work and learning for both individuals and educational and work organisations; and to establish the co-operation and exchange of experiences between organisations that are most advanced in the implementation of integration of work and learning in and between the countries concerned. There are four organisations involved in the project in Slovenia (two school centres, two companies) and four organisations in Hungary (three school centres, one company) (Ivancic et al. 1999).

The theoretical background of the project was based on the assumption that schools must develop a new identity by which school 'is no longer seen as the only institution and location for work-relevant learning', and where the humanistic paradigm of education as 'learning through theoretical understanding' is obsolete (Grootings 1998, 2.3, Buck 1997). The 'increased blurring of education and work' (Grootings 1998, 2.7) introduces a different theoretical perspective to various aspects of VET development, such as systemic arrangements and enhancement of social partners' involvement, contents of education, skills and competences, and teaching and learning methods. This is recognised in the advanced western democracies and in CEE, although it is not at the top of the priority list when compared to the still more acute problems in the immediate CEE reform process. Taking into account that the CEE countries are gradually leaving the phase of curing the diseases inherited from the previous regime and entering into a new phase of transformation in which these countries must harmonize conceptually with the developments in Western Europe, adequate theoretical perspectives for the research need to be introduced. Thus what range of questions to be involved in research in CEE appears crucial: for the time being, equilibrium must be found between the acute issues and the issues of a global concern. This would correspond to the challenges of the double transformation mentioned earlier.

Knitting the two worlds – education and employment – must eventually bring about knotting the two systems and its structures in order to provide a flexible and adaptable lifetime studying workforce. The CEE wider research suggests actually two key notions: 'flexibility' and 'partnership'. Taking into account that 'the paradigm of learning society implies weakening the barriers between the persons learning life and working life' (Tempus CME-

97-3007 1999, p.16), researchers in CEE advocate support for flexible learning strategies at all levels. Diversification of education systems by introduction of alternative pathways and integrated programmes at a secondary level, and non-academic type of tertiary vocational education, was one, systemic step forward in adaptability to the new circumstances. From the conceptual point of view, however, it is not sufficient, as in the new environment we must think from a perspective of the lifelong learning concept, where the initial education is only a starting point of learning for one's whole life. The functions of continuing vocational training (CVT) and professional development must be advanced in secondary VET schools, universities and higher vocational education establishments to make them flexible units of learning for various target groups (Tempus CME-97-3007 1999, Kofronova et al. 1999). The attempts to integrate the various segments of VET (youth, adult and retraining) under one roof is evidenced in the EU member states (Parkes (ed.) 1999), while in the CEE such innovative examples are not yet systematic.

From the perspective of the lifelong learning concept it is especially important from which angle researchers approach VET and how they include different education and training segments in their analyses. The experience of the study of the emerged sector of post-secondary and tertiary professional education in CEE, for example, demonstrated the complexity and variety of the systems appearing in CEE in recent years (Hennessey, M.A. et al. 1998). In a number of cases the complexity came into view, given by the ad hoc development of the system, when the necessity of such reform was recognized by the educators and asked for by the society. The general upskilling trend and the changing nature of the world of work in the direction of knowledge-based performance was displayed in the shift of enrolment trends towards higher and more general qualifications at a secondary level, providing for the possibility to enter higher education. The increased importance of the higher level of qualifications 'as a determinant of labour market status and earnings potential has encouraged students to prolong their education and to continue on to university' (Laporte and Ringold 1997, p.33). The restructuring of higher education has therefore become important, especially in the countries with insufficient participation at this level (Czech Republic, Slovakia, Hungary, Poland, Slovenia, Romania). Moreover, for the countries where higher education enjoyed high participation rates (Bulgaria and the Baltic states) but enrolments in VET were comparably lower (ETF 1999c), the restructuring of higher education was a means by which to diversify the provision of vocational qualification at a higher level.

No ready-made unique model of a non-university professional education system was at hand (Hennessey, M.A. et al. 1998). The countries had to build the system upon the existing VET and higher education provisions. Other countries introduced tertiary/ post-secondary professional education in its remarkable complexity at least partly in a deliberate manner, in which the complexity of the system is meant to correspond to the complexity of the world of employment and social choice. As a result post-secondary/tertiary professional education in the CEE countries differs in the length of the programmes (from two up to four-five years), in the level of qualification provided, entry requirements, institutional provision, etc. The system often overlaps with university-type higher education on the one hand, and with secondary vocational education on the other hand. The demarcation between post-secondary and tertiary as two levels of professional education is also not very explicit in the CEE countries (with the exception of the Baltic countries) (Hennessey, M.A. et al. 1998). The complexity of the system is in line with the context of lifelong learning, where all sub-categories of education and training system become interrelated, overlap and interact.

Higher levels of participation at the tertiary level, driven strongly by demands reflecting the diverse interests of students, employers and society at large, have created challenges which must be met. In 1995, the OECD's Education Committee launched a multi-country 'thematic review' of the first years of tertiary education. *Redefining tertiary education*, a comparative report of its findings and conclusions was published by the OECD

in the first half of 1998 (http://www.oecd.org). The CEE countries were not covered by the thematic review but they benefited from the study *Tertiary professional and vocational education in central and eastern Europe*, co-produced by the ETF and the Council of Europe in 1997 and published in 1998 (Hennessey, M.A. et al. 1998). The latter analysis covered sixteen countries of CEE and the CIS.

The above study (Hennessey, M.A. et al. 1998) 'provided evidence that many phenomena of this range of education programmes and qualifications and of related institutions tend to be overlooked if one focuses solely on higher education or solely on vocational education and training' (p.45). Therefore, the system must be comprehended in its full variety. Inclusive research must be encouraged; fragmentation in analyses and in practices (the major drawback of the reform process in CEE) must be avoided. It is, unfortunately so far a prevailing mode[19], and initial VET is studied separately from CVT and the rest of the system, as well as often without a particular reference to the labour market and socio-economic context. Moreover, each segment is often put under the responsibility of a different institution, which further exacerbates the intersectoral and interdisciplinary approach.

There are, however, positive attempts to comprehend the system in its entirety within CEE. For instance, the last two years featured the generation of a number of research outputs such, as the synthesis report *Initial VET in the framework of lifelong learning* (Kofroňová 1998), report *The role of employment policy and employment services in the state education policy* (VÚPSV 1999), Estonian *Education scenarios 2015*, study *The model of integrated career guidance in Poland* (Trzeciak, Drogosz-Zablocka (eds.) 1999), *Restructuring alternatives for Albania's vocational/technical education and training subsector* (Lamoureux et al. 1999), *National strategy for human resources development* (Birzea et al. 1999), *Human resources in the Czech Republic* (Hendrichová (ed.) 1999), *Czech Education and Europe* (Čerych et al. 1999), OECD education policy reviews, and others. A number of projects of comparable comprehension are under preparation.

5.1.1 Research on financing of VET

Recent years have also featured analyses of the financing of initial education and training (though still very limited), its mechanisms and trends in the CEE countries, where one of the recent OECD projects analysed alternative methods in financing lifelong learning. The study analysed various aspects of the role of financing in promoting access, participation and quality assurance of lifelong learning. Only two CEE countries could benefit from participation in the study, even though with certain restrictions given by the lack of data. The latter is a characteristic common to the CCE countries in this field: data on financing by employers, private sources, and data on CVT participation in general are very scarce. The OECD study also revealed that the mere understanding of the concept of lifelong learning differs between the OECD countries to a great extent. The CEE countries lack a thorough elaboration and common understanding of the concept and further research in this field is desirable.

The OECD report on *Alternative approaches to financing lifelong learning* (Green et al. 1998) aimed at analysis of emerging strategies for mobilising investment for implementation of lifelong learning for all, and for improving its returns and reducing its costs (p.2). The study is based on background reports submitted by ten OECD countries, including Hungary and the Czech Republic.

The CEE countries equally lack thorough comparative research on systems of financing lifelong learning in these countries, where the above-mentioned lack of data is certainly a drawback. Nevertheless, such research is badly needed, it may actually by itself instigate *inter alia* the data collection. The CEE countries, which enjoyed a steady increase in public expenditure on education as a percentage of GDP between 1990 and 1994, have suffered from a decrease or stagnation in spend-

19) Our analysis in this context is not an exception, indeed, and although there has been an attempt to have an integrated structure, still the segmental approach in research is directly reflected in this paper.

ing on education since 1995 (with the exception of Estonia, Lithuania, Poland and Romania), ranging in 1997 between about 3% (Bulgaria) and 7% (Estonia) of GDP spent on education (Laporte and Ringold 1997, ETF 1999c).

The difficulties in public budget allocation in the transition period were multiplied by inefficiency of resource allocation, where the bulk of funding was spent on personnel (though the teachers salaries being protected still are far too low to maintain or to gain prestige for the profession) and capital expenditures remaining extremely low. The latter has been a crucial issue over years, as the education facilities become outdated and become an obstacle to implementing modern education programmes, including ICT education. The research on *Efficiency in Bulgaria's schools* suggests to increase efficiency in using classrooms without jeopardising learning objectives, by e.g. consolidating several grades in a multiple grade system in rural areas where classes are small (Bogetic and Chattophadyay 1995).

There is, however, the question as to how this instrument would affect the quality of education provision. Further research on different means of making the system more efficient is necessary. The CEE countries particularly need to introduce a system of incentives for individuals and employers to participate in education and training, including tax incentives, a system of benefits and indirect 'qualitative', systemic incentives to encourage participation in education and training. The system thus far of financing in the CEE countries is somewhat inflexible, with the per capita or per-unit financing prevailing as a nucleus system with certain variations (e.g. elements of output-based funding in combination with per capita funding in the Czech Republic), low involvement of enterprises in financing due to severe economic conditions, and a low, though steadily increasing, private component (ETF 1999c).

The low financial involvement of enterprises in training increases the danger of the irrelevance of the practical skills and competences, provided by education and training. Therefore, finding the instruments for encouraging employers to participate financially in VET or to directly provide training for their current and future employees becomes crucial. Hungary is an example of a CEE country which has provided certain financial incentives, namely tax allowances for non-profit making organisations engaged in educational services (Green et al. 1998) and through a levy fund paid by employers or alternatively direct contribution to VET schools or on-the-site workshops (20% of total VET secondary schools expenditures are paid through the levy fund (ETF 1999a)).

Such a system, however, presupposes a high level of participation of social partners in VET, which is still rather weak in the CEE countries. In any case a thorough analysis of the Hungarian system, its evaluation and comparison with other similar systems of incentives in CEE (Poland, Lithuania, in the latter a contribution from employees is also levied, (ETF 1998a)) and in the EU member states (the Netherlands, Finland, Spain, etc.) as well as a feasibility analysis of its applicability in different CEE countries is highly desirable. The CEE countries should concentrate on the analysis of whether it is preferable to tackle the issue of financing by merely increasing resources allocated to training or by setting up training funds (ETF 1999a).

5.1.2 Continuing vocational training and human resource development

Continuing vocational training has been tackled by research very sporadically. The concept itself is not very elaborate and all research exercises in the area of CVT experience difficulties with the exact definition of which types of training to include. Numerous definitions of CVT created perhaps more confusion than clarity, and eventually arrived at a very vague definition of 'learning that improves employability of adults who have left the compulsory education system' (ETF 1999d). Some definitions involve employment or keeping/improving the employment position as a virtual objective of CVT, by this means setting up CVT in opposition to training as a leisure pursuit (Palan 1997). It is, however, questionable as to where the line can be drawn between the

two, and what kind of 'leisure' training may eventually bring about better employability and employment.

Nevertheless, the crystallisation of certain types of training of adults under CVT has naturally occurred, involving (from the viewpoint of participants):

- CVT as an instrument of active labour market policy for unemployed, young graduates and those at risk of unemployment,
- CVT as a part of human resource development policies of companies for those with employment, and
- CVT as an individual initiative.

From the perspective of lifelong learning CVT has attained a new importance: it is no more a mere second chance, retraining or further training, but a regular lifelong educational path for everybody (ETF 1999d, p.4). At the same time 'CVT has received a little intention so far, apart from labour market retraining measures[20]' (ETF 1999d, p.9).

> The ETF report on *Continuing vocational training* was prepared in 1999 and used the information from the country reports, written by National Observatories in CEE in 1998. The reports appeared to be an invaluable mapping source, where all major surveys and studies existing at the time were recorded and the results were evaluated. This has been a first step in appallingly demanded research in the field of CVT, which should be tackled, however, in a wider perspective of lifelong learning.

The evidence of *participation in CVT* is inadequate, but the one available evinces higher participation among people with higher qualifications in all CEE countries. This is evidence of people's individual commitment and initiative, and perhaps also of greater capability to get access to CVT (where not only money matters but also, and even more so, access to barely available information). The system of CVT (if one can speak about a system in this context at all) suffers from a lack of transparency and lack of information on the offer and quality of training. The system of monitoring and evaluating CVT (as well as initial VET) is insufficiently developed. Conceptually this must be tackled by research in both segments (initial and continuing). While the initial VET is relatively well monitored in all countries, CVT suffers from a lack of data and particular indicators that can provide evidence of the sub-sector development. Furthermore, interlinking the initial and continuing VET involves the issue 'of educational and occupational standards and their related certification and qualification' (ETF 1999d, p. 13).

The debate so far has taken place in the field of initial VET although some CEE countries have decided to introduce a unified system of national competence-based qualifications and the corresponding system of standards and certification for both initial and continuing VET (e.g. Estonia, to some extent Hungary). This appears to be an optimal solution from the perspective of lifelong learning. It must, however, go beyond the point and involve assessment of prior learning and recognition of informal learning – issues that are actively debated in the EU research arena but so far almost totally neglected in the CEE research (Slovenia prepares to introduce such a system).

The research on *quality assurance* and linked to the certification and accreditation in CVT is equally scarce in the CEE countries. There are very few examples of research, one of them being the feasibility study initiated by the National Training Fund in the Czech Republic in the area of quality assessment and quality assurance of management training (Žaludová et al. 1997). It set up principles and drew up procedures for quality assessment at the level of training organisation (both self-assessment and a third-part certification), but also in a company training department. The study provided pilot field testing and suggested the steps for implementing a standardised model of quality assurance according to the ISO 9000 series as a first step to total quality management. The study also sug-

20) Research in the field of retraining will be dealt with later in the chapter.

1322

gested measures and recommendations for the implementation of a system to assure and improve the quality of management training at a national level (Žaludová et al. 1997, p.100). Such research in the area of CVT provision beyond management training is needed, especially if the national system of qualifications with the credit system, unique for VET and CVT, is not in place. There are other positive examples of research into quality assurance in education (e.g. Hungarian project *Comenius 2000*) which could be disseminated.

The CEE research materials provide very poor evidence of CVT or *human resource development* (HRD) in enterprises. Several international company surveys will perhaps shed light on the problem in the near future, namely *the Second CVT survey* by Eurostat, which included several CEE countries this year, and *the Cranfield project on European human resource management*, which was conducted the last time in 1998 and would announce the comparable longitudinal results in the near future. The surveys will give the information on training provision, participation, financing, HRD policy at a company level, recruitment problems, flexible forms of employment, etc. The results would present an invaluable primary source for further research in the field of CVT and HRD. The preliminary results thus far show that the CEE countries have somewhat lower participation in CVT than the advanced EU member states, the systematic HRD policy elaboration is not a rule for the majority of companies yet, companies spend on education and training less than their EU counterparts. The bigger companies enjoy higher participation and expenditure on CVT. The research on methods of support for CVT and HRD among SMEs is another area where analyses and suggestions of innovative solutions could be especially welcomed.

The report *Key indicators for human resource management in CEE 1999*, summarises the key issues of human resources departments in companies from the Czech Republic, Hungary, Poland, Romania and Slovakia. The survey covers a very small sample and cannot serve as a comparative study; it is a benchmarking analysis (PriceWaterhouseCoopers 1999)

The benchmarking survey Key indicators for HRD appeared to be one of very few existing sources in this field. The companies which participate in the survey are interested in obtaining a benchmarking perspective which helps them to grasp where the company stands. The survey revealed that in all CEE countries middle management had the most training days, the highest frequency numbers being found in professional (technical) training. Leadership training, ICT and languages training are also in demand. The survey also demonstrated that it was not HRD, HRM or education and training that kept the HR departments busy but personnel and payroll administration – the activities that take up the most time of the HR departments in the CEE companies (PriceWaterhouseCoopers 1999).

The Second International Adult Literacy Survey (SIALS), supported by OECD, UNESCO and Eurostat, was conducted in 1996-1999. The survey was a second wave of IALS, conducted in 1994. The two surveys included *inter alia* several CEE countries, namely Poland (IALS), and Czech Republic, Hungary and Slovenia (SIALS). The survey, based on a representative sample, analysed functional literacy (prose, document and quantitative literacy) among the adult population at five levels. The comparative results for SIALS will be published in mid 2000.

The Second International Adult Literacy Survey (SIALS) analysed the outcomes of education among the adult population. The preliminary results of the SIALS unfortunately do not yet make it possible to compare the results cross-country, and to see where participating CEE countries stand. It is possible, however, on the basis of the preliminary results of the Czech Republic as compared to the first wave (IALS), to conclude that the Czech respondents demonstrated the incapability of working actively with information given in a particular context, but demonstrated excellent functional numeric skills and formal document literacy. Poland showed very poor overall results in the survey, but also performed the worst in the active usage of information (Matějů 2000). These results derive from the mode of education provided in CEE schools, which provides encyclopae-

dic knowledge rather than an ability to work with information actively, to use the knowledge and be innovative ('to know' vs. 'to know how').

The survey also gave evidence that people with higher educational attainment perform with better results, but different levels of education demonstrate different efficiency, as compared to the performance of respondents with the same level of education. Those Czech people with full secondary education and with vocational training qualification performed, when compared with the same level in other countries, much better than the higher education graduates as compared to their counterparts in other countries (Matějů 2000). The analysis of intergenerational mobility revealed at the same time that higher education is characterised by the lack of openness and eliteness (Matějů 2000). Taking into account the insufficient capacity of higher education in the Czech Republic and the poor performance of its graduates when compared internationally, the results are rather striking. The restructuring of higher education and its better integration into the system of lifelong learning needs to be enhanced. The role of CVT in this process is indisputable as well. At this point we come back to the conclusion that the whole system must experience better integration of its different, and so far rather fragmented, segments.

5.1.3 Teaching and learning: a one-off task or a lifelong perspective?

The perspective of an individual learner in the educational process and outcome has been somewhat neglected in the CEE research. At the same time individual development is a crucial democratic value. The education must provide an individual with the best possible chances for life success. What kind of education can provide this?

A re-thinking of the two paradigms – education and employment – and their role in the life of the individual brings us to a new appraisal of initial education and a re-assessment of the roles of different actors in the education process. The school must provide a basis of knowledge broad enough to create incentives for further learning. Two aspects are important in this respect: what is learned and how it is learned.

It is important to perceive the content of education from the point of view of the eventual outcome for the individual, be it employment, further learning, entrepreneurship or self-development. Therefore the system should presuppose a flexible form of learning and a flexible award system of qualifications. Under new conditions the CEE countries are trying to find different approaches and concentrate on combining the two basic ones: an orientation toward curriculum input (a more traditional one) and the output control, based on output occupational standards and the national system of occupational classification and vocational qualifications.

In curriculum innovation the countries try to develop flexible competence-based systems. There is little research, however, on competence-based training and especially on the methods and tools for implementing such approach. The research is needed to suggest how to modify the traditional way of teaching, which is divided between theoretical and practical teaching, and turn it into an integrated competence-based approach. *The cross country analysis of curricular reform* has demonstrated that in spite of the considerable progress achieved, so far 'there is a sharp division between theory and practice, between classroom and workshop, and between vocational teacher and trainer functions in most Central and Eastern European countries. This separation between the intelligence of the brain and the intelligence of the hands is very problematic for the combined learning outcomes of the vocational students and must eventually change' (Parkes ed., 1999, p.24).

A cross country analysis of curricular reform in VET in CEE (Parkes (ed.) 1999) was a report commissioned by the ETF and was drawn on the basis of ten CEE country case studies. The report evaluated the reform experience of the countries and outlined the key issues for the future actions.

The experience of pilot schools under the Phare VET reform programme resulted in the proc-

ess of the implementation of competence-based curricula, where competences are understood at different levels – professional performance related and designed for unstructured work situations. Some countries have set up the national system of qualifications linked to occupational classifications (e.g. Hungary, initiated in Estonia, Slovenia, Lithuania and the Czech Republic). The system is however at the moment very time consuming, as occupational profiles have become outdated, and this is an ongoing process. It therefore requires the ongoing involvement and commitment of social partners. Additional research on methods for the efficient construction of occupational profiles as a living process would be useful. Some countries make an emphasis on general subjects in vocational preparation (e.g. Latvia). The latter corresponds to the objectives of lifelong learning but has certain drawbacks in its linkages to the requirements of the labour market (Parkes ed., 1999). The Czech Republic has introduced a two stage curriculum, allowing for the input control at a state level and leaving room for the innovation and for adjustment to local labour market needs at a school level.

In the framework of the introduction of flexible forms of learning and as a result of the pilot Phare reform, a debate on modular training has become very popular in the CEE countries. Modules are conceptualised in their linkage to occupational tasks. Most countries try to gradually introduce a flexible and adaptable system of modular training, which embrace both initial and continuing VET, allowing for transparency, recognition of qualifications and mobility. The most flexible systems are based on credits allowing for mobility and flexibility inside the system (e.g. Estonia under implementation, Slovenia in planning, in Hungary implemented at a post-secondary level). Such a system corresponds best to the needs of learners, as it presupposes open pathways and is a step forward toward recognition of informal learning. The latter is in the direct interest of an individual as well as of the society. The issue of assessment of prior learning and informal learning, widely discussed in the West, has not yet appeared on the agenda in CEE, nor has how it may be linked to CVT.

Two points are especially important as far as the VET research is concerned. First, in spite of obvious advantages of the modular system, thorough research is needed to analyse the possible impacts of a modular system in the context of the CEE countries. The experience of the pilot schools is invaluable but the countries should be aware of the current debate in the EU member states on the shortcomings of the modular system, as well as analyse its impact as applied to the CEE context. Second, due to the decentralisation of the school system and the greater independence of schools research on different types and methods of evaluations and assessments is important as a part of the quality assurance system. The research on standardisation of output assessment, though it has been developing in recent years, requires further research and concentration on alternative methods (examination, portfolios, etc.) more appropriate in the context of lifelong learning.

No matter how perfect the VET system is, and how good the content of education and school facilities, the crucial task of the reform for the CEE countries, and so far largely unsolved, remains that of the quality of teaching. The new flexible forms of learning assume innovative, informal forms of teaching and the existence of necessary teaching and learning materials. But again, no matter how wonderful the teaching materials and tools are, the teacher remains a cornerstone of mediation in the learning process. The task cannot be narrowed down to the reform of the preparation of teachers and trainers. It involves the much deeper problem of redefining the roles of individual partners in the educational process, where the mentality of all actors must be changed. The teacher is no more an intermediary of knowledge but a student partner. The methods shall become more informal, pro-active, and integrative. Research on innovative methods of teaching (e.g. project, team work, etc.) must complement the research on the preparation of teachers and trainers recently widely implemented at a national level by many countries and at the international level.

The question of the reform of training for teachers and trainers, which still suffers from many drawbacks of the old system, shall be tackled

1325

in the wider perspective of the integration of work and learning. The preparation of teachers and trainers, its transparency, standardisation, upgrading, and other aspects should be considered along with such aspects as the integration of the teaching function with employment, the changing role of agents in the teaching and learning processes, the new flexible methods of learning, school openness to the external environment, its integration with the employment environment, and in the comprehensive context of the lifelong learning system.

The ETF report *Innovative practice in teacher and trainer training in VET* (Oldroyd D., 1999) was prepared on the basis of the survey conducted among the members of the ETF Advisory Forum Subgroup D. The report collected information about innovative practices of teacher preparation and expert opinion on problems and priorities in the CEE countries in this area.

A cross country review *Reshaping the focus of vocational teacher and trainer training* (Nielsen et al. 1999) was commissioned by the ETF and prepared on the basis of country reports submitted by National Observatories. The report scrutinises the existing situation and arrives at proposals and recommendations.

The project major *Trends and actors of education policies and reforms in Central Europe* was implemented with the support of Soros Foundation and include Czech Republic, Hungary, Poland and Slovakia. The project has contributed also to a better understanding of recent developments of teacher training in CEE (Nagy 1998).

Reshaping the focus and structure of VET teaching personnel training in Latvia and Lithuania is a project (1999-2000), supported by ETF and the governments of Denmark and Finland. The project has a common frame and objectives for both Latvia and Lithuania. It seeks to open the VET schools to the world of work, introduce organisational development within schools, promote training of teachers, modernisation of teaching and learning methods.

5.1.4 Social partnership

It must be remembered that earlier in this chapter we stated that the challenge of blurring the worlds of education and work and the concept of lifelong learning involve two key notions – flexibility and partnerships, being indeed present in all the rhetoric on each segment of VET. We have tackled the point on flexibility and we shall come back to this later on; we shall now look at how the system of social partnership has been researched. Analyses of the role of social partnership in VET appeared in CEE very recently as a part of an on-going pilot project on the role of social partners in VET, launched by the ETF in 1997. The study examined the state of the art in this area and came up with recommendations for the future, which were verified during workshops and public discussions. As the overall exercise involved social partners' representatives from the early stage, the project itself has contributed to improvement of the situation. The ETF continues to work with partner countries in this field, and the project will eventually attain a development character.

Enhancing the role of social partner organisations in the area of VET in the candidate countries of CEE (ETF 1998a) was prepared in the framework of an identically named project, launched by ETF in 1997. The report was prepared on the basis of country reports submitted by National Observatories. The reports analysed social partners involvement in financing of VET, elaboration of vocational standards and systems of qualifications, quality assurance, and VET planning. The analysis was produced in close collaboration with social partners' representatives and their close involvement in the follow-up discussion at a national level and at the international conference organised by the ETF.

Although the project is not purely of the research type, the analysis has contributed greatly to mapping out the current situation. It showed that in spite of the general immaturity of the system of social partnership in CEE, the countries have reached quite different levels of development in this field, and have also undertaken rather different patterns of development. The common obstacles to the higher involvement of social partners in VET are the above mentioned lack of incentives for employers, lack of commitment from their side, and the lack of resources.

1326

Some countries still lack the legal framework or suffer from insufficient institutional development. Nevertheless, it is possible to state that the countries that have managed to set up a system of financing with the participation of employers through a fund mechanism enjoy greater involvement of social partners in VET in general (e.g. Hungary).

Similarly those that started developing the system of national vocational qualifications (e.g. Hungary, Lithuania, Estonia) and worked with social partners on development of vocational and occupational standards (e.g. Slovenia, Estonia and Lithuania – in selected sectors) were more successful in developing systemic ties with social partners. Their involvement in the development of vocational standards is relatively low in all CEE countries, as is their involvement in quality assurance or identification of future labour market needs.

The Phare VET reforms have pushed forward significant progress in the area of a systematic consultation process with social partners, covering, though, only a limited number of pilot schools. Some countries have been more successful in involving social partners at a regional level within the framework of the overall regional administration reform (e.g. Poland), and many countries have succeeded in securing social partners' involvement at a community or school level (ETF 1998a). The latter is a peculiar point, which showed a great potential of flexibility at a very local level. The weak social partnership system in CEE is a part of the overall weakness of civil society and the instruments for its provision. The issue of finding mechanisms for the rehabilitation of the institutions of civil society, NGOs, public and professional associations, trade unions, the whole third sector, after the compromising of 'public' organisations under the previous regime, could perhaps be tackled in research from a wider sociological perspective.

5.2 Contextual research

Contextual research is a provisional expression for research which, although it does not deal with VET exclusively, looks at the contextual aspects of VET that define e.g. qualification requirements of the labour market, skill requirements in companies, and various social aspects as far as education and employment are concerned. The 'contextual' research in CEE, although concentrating on the same range of topics as in the EU countries, sometimes actually analyses somewhat different models and processes, when it comes to employment, unemployment, social exclusion, poverty, transition from school to working life, etc. Needless to say most of the mentioned notions are also new or have a new meaning for countries in transition: under the state planned economy unemployment, poverty, and social exclusion purportedly did not exist. Therefore these are also new research subjects in the countries of transition.

5.2.1 Employment and unemployment: factors of transition

All reporting countries enjoy better analytical and statistical coverage of unemployment than in the area of employment. Unemployment appeared as a new notion in CEE countries in 1990s as compared to the imaginary 'full' employment during the communist regime. In this situation the state had to generate social policy, a system of benefits, and employment measures on a principally new basis. Information from official registers of the unemployed was quickly generated for subsequent analyses and evaluation of national policies to fight unemployment. Comparable data with the standard ILO definitions appeared, however, in the CEE region only with the commencement of the national Labour Force Surveys (LFS) from the first half of 1990s.

Labour Force Sample Survey (LFS) was commenced in CEE countries between 1991-1995 with the exception of Slovenia where LFS has been in place sine 1989. LFS applies standard ILO definitions of employment, unemployment, activity, and others, and therefore, appeared to be the major source of comparable data at the international level. Although LFS itself is not a study, the majority of reporting countries mentioned the importance of the survey for the research. Through LFS data, collected through a representative sample of households, the coun-

tries have acquired an alternative to the official registry picture of the unemployment situation, and additional data not only on the unemployed but also otherwise largely missing employment data. LFS therefore being a major stocktaking source contributed to the research development.

As far as unemployment data are concerned, there are marked differences among the countries in the relationship between registered and LFS (ILO definition) unemployment, reflecting the efficiency of employment services and the level of unemployment benefits in CEE. For instance in the Baltic States, the number of registered unemployed is very small (between one half and two-thirds) as compared to the LFS data (European Commission 1999). The trend is similar in Bulgaria (Beleva et al. 1999). This shows that there are very limited incentives for people to register due to the low level of unemployment benefits and the underdeveloped nature of public employment services (European Commission 1999). This was confirmed by *Background studies on labour market and employment* (e.g. Eamets et al. 1999; Beleva et al. 1999). The situation is the opposite in Hungary, Slovakia and Slovenia, where the number of registered was 40-60% higher than recorded by LFS, which reflects that those registered as unemployed did not comply with the ILO criteria (e.g. were not available for work or were not actively seeking a job). This may mean that they were involved in very short-term temporary work, or may indicate fairly high unemployment benefits and effective public employment services in these countries. This however may also imply that a relatively large proportion of the population is still involved in the grey economy (European Commission 1999).

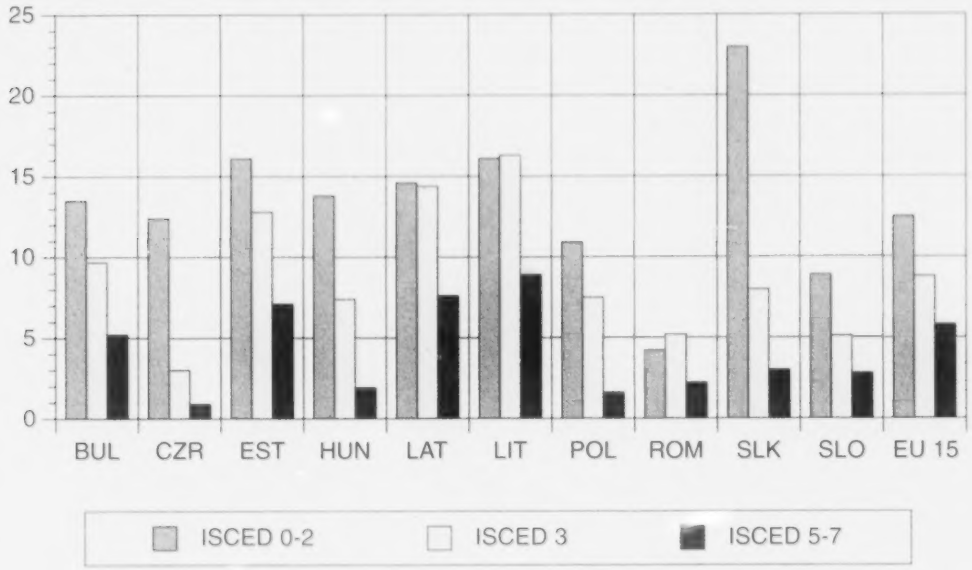
Educational planning, structural adaptation of the system, curriculum development, career guidance, all need to be based on sound labour market analysis, derived from the monitoring of actual labour market developments, and identifying the current and forecasting the future qualification requirements (ETF 1999a). The studies in the field of monitoring the actual situation in the labour market could be found in all researched countries. As labour market instruments and policies were introduced by states in the early 1990s, naturally the states have mostly financed studies evaluating the effectiveness and efficiency of active and passive measures. This sort of study is available in most CEE countries. However, the impact measurement in these studies has been rather weak and analyses mostly display insufficient attention paid to measurement of (re)-employment after participation in active labour market measures as a major indicator of policy success. The available studies mostly measure the efficiency of the programme by calculating the cost per unit, and accessibility of programmes by participation rates. There are some attempts in alternative measurement and its analysis (e.g. Svetlik (ed.) 1992; Pert 1998) which can serve as a good foundation for future research. Generally speaking, although the studies stress the usefulness of programmes for particular disadvantaged groups in the labour market, they also note relatively small proportions of participants and insufficient spending on the active measures. The latter features certainly vary from country to country to a great extent; nevertheless, they are a common characteristic in the region.

Background studies on labour market and employment were conducted in all countries in Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Slovenia in 1999. The studies were initiated by the European Commission, DGV, and the European Training Foundation for preparation of the background analysis for the labour market and employment policy assessment in ten pre-accession countries (see Beleva et al., Munich et al, Eamets et al, Horvath et al, Trapenciere et al, Gruzevskis et al, Sztanderska et al, Lubyová et al, Ciobanu et al, Pirher et al, 1999).

Unemployment, inactivity of the population as well as employment have their specific characteristics in CEE, stemming from the huge shift from the state-owned to private sector economy and between agriculture, industry and services (see more 2.1). Hidden employment and hidden unemployment, early retirement and women's withdrawal from the labour force, structural unemployment in 'mono-industrial' regions (especially mining and metallurgy) and rural areas, which in-

1328

Figure 5: Unemployment rates by educational attainment among 25-59 year olds, 1997 (%)



Source: ETF (1999) Key indicators, p.9.

creases long term unemployment, are some of the employment characteristics typical for the different countries in the CEE region, each to a different extent. There is no strong correlation between gender and unemployment in the region (it varies from country to country but it seems that female withdrawal from the labour market has obscured unemployment among them at least partly). Unemployment is highest among the young, poorly educated, and older age groups. The level of educational attainment proved to be a crucial success factor in the labour market. *Background studies on labour market and employment* as well as other studies in the field of the labour market (Allison and Ringold 1996; Guegnard and Cvetkova et al 1998; Martuzans et al. 1998; Rutkowski 1998; ETF 1999c; OECD 1998; Vecernik and Mateju et al 1999) proved that the higher the qualification level, the higher the level of employment. They also demonstrated high proportions of people with low or no qualifications among the unemployed and especially the long-term unemployed. The latter trend has been confirmed by the annual collection of key indicators on VET and the labour market (ETF 1999c), where the vast majority of the CEE countries have demonstrated an appalling correlation between low skills level and unemployment.

'*Key indicators*' is the annual statistical publication on VET and the labour market in the CEE countries, compiled by the European Training Foundation through the network of National Observatories. The data are provided by national statistical services and the ministries of education. For the purposes of comparability the publication also includes EU data for selected indicators, provided by Eurostat.

Rather few analyses have focused on the relation between unemployment and employment as two specific paradigms and stimulating factors of transition. One of such studies (Jackman and Pauna 1997) attempted to build the analysis on the examination of the reallocation of employment between sectors (public and private sectors, and sectors of growth and decline). The analysis questioned the fact that unemployment in the particular circumstances of the transition was an inevitable factor in facilitating of the move-

ment of workers to growth sectors. The authors justified their views through two pieces of evidence: first that private firms appeared to recruit almost exclusively from those with jobs in the state sector or new entrants to the labour force rather than from the unemployed; second the example of the Czech Republic with the highest rate of new job creation in the growth sectors (trade and finance) had the lowest unemployment rate in Europe. Jackman and Pauna, therefore, questioned 'the rationale of policies directed at speeding up the shake-out of labour from the excess employment sectors' (p.386). The analysis proved that unemployment in the transition economies was 'neither necessary nor efficient from the perspective of labour market restructuring' (p. 387).

It is, however, a dubious conclusion, taking into account later developments: the so called Czech miracle is no longer the case; economic recession and the fast growing unemployment rate are largely explained by the delayed restructuring of the state sector there; in the countries that started the economic reform earlier and intensively restructured the state sector, the initially high unemployment has already started to decline. A further analysis of unemployment and the effects of employment policies as factors in the transition process would be useful as a comparison of the development in the last decade in all CEE countries.

5.2.2 Human capital and social exclusion: the prize and price of transition?

Background studies on labour market and employment demonstrated that the process of differentiation of income, which increases with the advancement of the process of transition to a market economy, is remarkably linked to the relation between wage growth and the level of educational attainment. The previous regime put certain social groups in the ill-fated circumstances of the egalitarian society, hampering their life success and income growth, a fact which namely concerned specialists with higher education and people with entrepreneurial inclinations. After the change of regime the social stratification started to modify, and this has been reflected in the change of values.

One of the greatest among such changes has become the association of education as a crucial characteristic of life success. Although the CEE countries still tend to undervalue education as a crucial factor in life success as compared to the advanced democracies in Western Europe, the rate of importance given to the education factor increases along with the advancement in the process of transition. The higher the level of educational attainment, the more value is conferred on education as a factor of life success. The transition period in CEE countries has been characterised by the gradual formation of the value of human capital, the rehabilitation of career rising, and a steady transformation of stability values into mobility values as factors of employment success.

The trends are partly evidenced in the International Social Survey Programme (ISSP), in particular in the Social inequality survey (1992, 1999) and the Work orientations survey (1997). The longitudinal study *Returns to human capital under the communist wage grid and during the transition to a market economy* (Munich et al. 1999) demonstrated through the example of the Czech Republic that while during the decades of communism an extremely low rate of return on education was maintained, it increased dramatically after the change of regime, and that the inter-industry wage structure varied substantially after the economy switched from central planning to market orientation. Human capital embraces not only the attained education but also initial skills, competences, talents, motivation and commitment to further develop and use the skills and competences. Human capital represents a very important capacity of the workforce, which can eventually activate economic capital (Matějů 2000).

The International Social Survey Programme is a continuing annual programme of cross-national collaboration on surveys covering topics important for social science research. It brings together pre-existing social science projects and coordinates research goals, thereby adding a cross-national, cross-cultural perspective to the indi-

1330

vidual national studies. Thirty-four countries are members of the ISSP, including Bulgaria, Czech Republic, Hungary, Poland, Latvia, Slovakia, and Slovenia (http://www.issp.org)

The reverse side of the healthy differentiation processes, increasing returns on education and formation of the human capital value were, however, raising *inequalities*: the greater the life success of the educated, the fewer the chances received by those without qualifications. The overall income decline and rising differentiation in the CEE societies have become major pitfalls of transition and put the disadvantaged groups at the high risk of social exclusion. 'In this respect, it is necessary for human resources policies to combine social policies for the human capital protection... with policies for human capital development' (Romanian national HRD strategy, p.4). Some analyses show the growing inequality in access to education in the CEE countries (e.g. Matějů 2000) and predict its further deepening. The growing importance of education for life success on the one hand, high intergenerational reproduction of educational qualification on the other hand, and finally insufficient participation in higher education in a number of CEE countries will contribute to rising social inequalities.

Social exclusion is a young topic on the research agenda in CEE, as is the problem itself, and very little research can be found in this field. Under the communist regime the existence of social exclusion as well as poverty was not admitted; marginalisation was perceived as a social choice. Therefore these phenomena were not scientifically and empirically addressed. In the early transition period, with the rapid growth in poverty, the countries and international society focused on studying poverty, though with a certain reduction of the concept of poverty to measuring income and consumption based definitions of poverty, and insufficiently focusing on the educational and occupational aspects of poverty (also criticised by Szalai 1999). UNDP focused on studying poverty in transition economies in 1997, where limitations of the income-based perspective were realised and the Human Poverty Index was introduced, which includes indicators of different dimensions of deprivation, including lack of education (United Nations Development Programme UNDP 1997). The latter report revealed the enormous social cost of transition, which in most CEE countries, particularly in the early transition period, led to a decline in income, the highest ever growth in income inequality, crime growth, loss of social protection, decrease in life expectancy and a sharp decline of the birth rate.

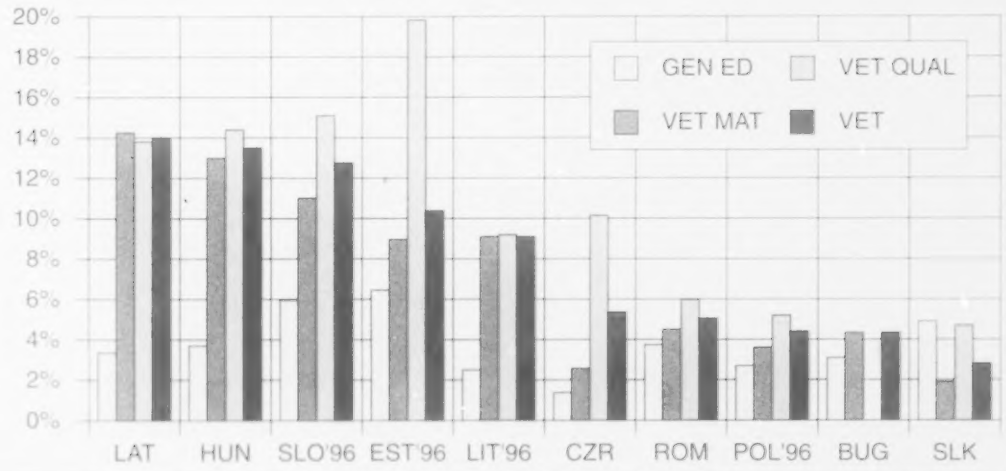
Atal (1999) noted that 'careful sociological investigation is needed to understand the phenomenon of poverty in these countries. Is it a new form of poverty that is emerging, or is it suppressed poverty that is resurfacing?' (p.6). His work (Atal 1999) was a subsequent attempt to summarise different approaches to poverty definition and measurement in the selected CEE and CIS countries. This has been a first step, which certainly demands further elaboration, and especially analysis of marginalisation and social exclusion from the perspective of education and training.

The latest UNDP report (1999) revealed that in the process of globalisation and the rising importance of the development of information and communication technology, as well as biotechnology, the race to lay claim to knowledge becomes inevitable. The lack of access to knowledge (PC skills, language skills) and to information tools (the Internet), widens the gap between 'knows and know-nots', not only between "conventional" 'haves and have-nots' (UNDP 1999). Therefore the topic of social exclusion, so far insufficiently considered, deserves more attention on the CEE VET research arena.

Every year since 1990, the United Nations Development Programme has commissioned *the Human Development Report* to explore major issues of global concern. The UNDP reports look beyond per capita income as a measure of human progress by also assessing it against such factors as average life expectancy, literacy and overall well-being. This year's Report focuses on the positive and negative aspects of globalisation. (http//:www.undp.org)

So far the scarce research in this field has mostly been tackled from a sociological or eco-

Figure 6: Drop outs rate, men and women



	LAT	HUN	SLO'96	EST'96	LIT'96	CZR	ROM	POL'96	BUG	SLK
GEN ED	0.0335	0.037	0.0596	0.0645	0.025	0.0138	0.0374	0.027	0.0309	0.049
VET MAT	0.1426	0.13	0.1101	0.0895	0.091	0.0256	0.045	0.036	0.0434	0.019
VET Qual	0.1381	0.144	0.151	0.1983	0.092	0.1014	0.0598	0.052	0	0.047
VET	0.1401	0.135	0.1275	0.1038	0.091	0.0535	0.0504	0.044	0.0434	0.028

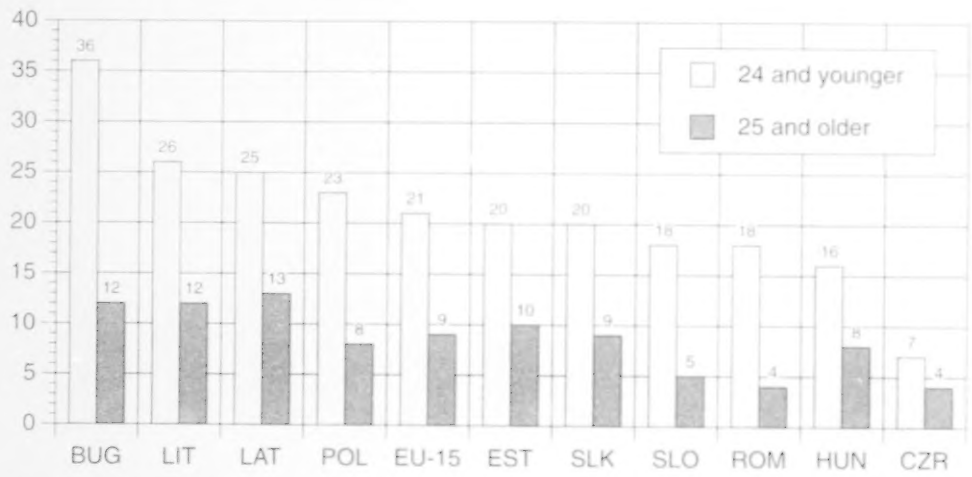
Source: ETF (1999) Key indicators, p.23.

nomic perspectives (e.g. Svetlik (ed.) 1996; Vecernik 1991; Sirovatka 1997). Only recently the research started to focus on issues of the role of VET in the promotion of social cohesion, as a tool of 'systemic inclusion of the generation of youngsters in the vocational education and training, and in all forms of education and training of adults – those related to jobs and those not directly related' (Trbanc 1999). The question therefore should be tackled from the point of view of access to education, flexibility and permeability of the systems, financial incentives to promote participation in education, especially among disadvantaged groups, and finally the content of education to promote participation, achievement of qualifications and the relevance of educational output to the needs of the labour market. Trace studies and analysis on drop outs from education and training, as well as on the causes and effects of low participation rates in education may shed the light on how to reform the system to promote access to education and life long learning. These studies are so far missing, which has been noted by most of the countries, especially the ones where drop out rates are high – above 10% (Hungary, Slovenia, and the Baltic states).

The ETF initiated extensive studies on VET against social exclusion in the CEE countries. The project is in its starting phase, and the first results shall be available in mid 2000. The very preliminary results demonstrated that social exclusion has several tendencies common to CEE countries: it occurs in the case of an accumulation of a number of disadvantage characteristics (e.g. low skills, long-term unemployed, belongingness to/membership in a national minority); there is a spatial accumulation of risk factors (deprived regions); it has a reproductive intergenerational tendency. This makes research from the spatial and social accumulation and reproduction perspectives crucial for finding mechanisms to fight the social traps.

1332

Figure 7: Unemployment rates of young and older people in CEE and in EU-15, 1997 (%)



Source: ETF (1999) Key indicators

Studies on *VET against social exclusion*, commissioned by ETF at the end of 1999, and currently under preparation by the National Observatories, shall tackle the problem from the starting point of identification of groups under the risk of social exclusion, collection of factual information about the situation of these groups in education and training and on the labour market, analysis of policies, actions and best practices to promote the social cohesion in the countries. The studies shall come up with the set of preventive and reactive recommendations for targeted policy measures and projects to support the disadvantaged groups and promote social cohesion.

5.2.3 Transition from school to working life: transition in transitory societies

The growth of youth unemployment in CEE facilitated relatively frequent trace analyses of school leavers' integration to the labour market and research in the field of transition from school to employment.

Roberts (1998) looked at the school-to-work transition in CEE from the perspective of an analysis of basic categories of the transition process, examining the relevance of the Western models. He argues that although the basic categories of transition such as employment, self-employment and unemployment are the same, their meaning and impact may be quite different. Indeed, he demonstrates that variations inside the employment status of young school leavers in CEE are much wider than the ones in the West. With the emergence of the private sector and especially 'westernised' types of employment (local offices of Western firms) employment conditions vary a great deal, often providing wages well above the national average. Employment in unstable jobs in the private or public sector, and especially in the redundancy sectors, or self-employment often mean low or vulnerable income and insecurity regarding the future. The young people in CEE appeared more likely to work on their own accounts, being self-employed, than their Western counterparts.

K.Roberts' analysis is based on the enquiries undertaken in Poland, Hungary, Slovakia, Bulgaria, Ukraine, Georgia and Armenia, based on the methodology which allows for broad comparisons within the group of countries and with experiences of young people on the labour market in the West, developed by the Anglo-German foundation in the early 1990s.

Similarly the unemployment status among the youth in CEE appeared to have a different connotation as compared to the West. Tra-

ditionally much closer intergenerational family ties in CEE affected deprivation as a direct consequence of joblessness, where the unemployed young people often relied rather on the assistance of their parents than on the employment services, managing to maintain the reasonable standards of living and leisure patterns, unlike their Western unemployed counterparts. A relatively high rate of withdrawal from the labour market, especially among young women, was found characteristic for the CEE youth (see also OECD 1998, p.28 for Bulgarian case). Unemployment often actually meant employment in the grey economy, casual labour practices or part-time studies. The young people in CEE also often demonstrated being more likely to be involved in the growth sectors, private SMEs with foreign capital, or successful entrepreneurship than the older population, diminishing by these means the age income inequalities. Thus although the categories of transition to the labour market are the same in the West and in the East, their connotation differs substantially. Roberts, therefore, defines 'westernised' employment, public sector, self-employment, partial employment, and unemployment as more appropriate categories to address in research on the school-to-work transition (Roberts 1998, p.236). He proposes, therefore, to research *career routes* rather than labour market statuses.

The thematic review of the transition from initial education to working life was conducted by OECD between 1997 and 1999. The review covered fourteen nations, including two CEE countries – the Czech Republic and Hungary. The review was built upon *Background Reports* (NTF 1997, OECD 1998a), prepared by all involved countries, and *Country Notes* (OECD 1997, OECD 1999a), prepared by expert reviewers. The final comparative report focused on the analysis within the lifelong learning framework of how transition has been changing during the 1990s, and what policies are the most effective (OECD 1999).

The OECD thematic review of the transition from initial education to working life (1999) tackles the topic primarily from the point of view of the flexibility of *educational pathways* and also of the effectiveness of systems and policies. It was remarkable that both the Czech and the Hungarian post-compulsory schooling pathways were found selective, and the system of partnership to promote effectiveness of education pathways leading to integration to the labour market, insufficient. Moreover, the general trend of the growing length of the transition process in both CEE countries was partly connected with inadequate capacities of tertiary level education, making therefore the overall system of lifelong learning even more selective. The study puts a particular emphasis on the lifelong learning perspective, where high drop-out rates from secondary education in Hungary should be tackled in elementary schooling, and higher levels of qualifications should be achieved by offering a broad basis of both general and vocational qualifications at an upper secondary level and by restructuring higher education in both countries (OECD 1997, 1999a). The role of CVT in improving the employability of young people on the labour market is especially important in this respect (ETF 1999d), as it provides a quick solution by supporting employability of the young before the systemic changes come into being.

The sociological survey *School leavers in the Czech Republic* conducted in the framework of the OECD project *Transition from school to working life* (Kuchař 1999) was carried out among population of 20-29 years old who are graduates of standard full time education of all types or are without education, who are employed, unemployed or inactive. The survey analysed educational paths and their length, professional paths, (mis)match of the first job after graduation and the obtained vocational qualification, evaluation of quality of the school education from the employment perspective, and intergenerational mobility.

Both research perspectives – analysis of the educational pathways and career routes – have been combined in a sociological survey, carried out in the framework of the OECD project *Transition from school to working life* in the Czech Republic (Kuchař 1999). The survey confirmed that the key reason for prolongation of the educational paths was unsuccessful attempts to enter into higher education. The survey also demonstrated linear

school pathways, an early start in professional pathways (combined studies and employment), most frequently out of self-employment, relative instability of professional pathways for people with vocational type qualifications, given by a high concentration of these qualifications in restructuring industries. The survey revealed that particular problems in the transition process were experienced by people with no qualifications, and that the higher the level of education, the stronger the tendency toward social reproduction in the educational and professional mobility (Kuchař 1999). The trace studies on school graduates were also undertaken in other countries (CNA Veneto Euro-In Consulting 1998, and Jigau et al. 1998 in Romania; Study of graduates of VET schools in Estonia, 1998; Pavelson 1999 in Estonia and others). An absolute majority of the trace studies confirm that the higher the level of educational attained, the less the likelihood of unemployment, and the smoother the transition process. They also mostly agree on the need to provide broad-based qualifications with substantial general knowledge and social skills. They confirm that the majority of both the current students and those already in the labour market seek to enhance their knowledge and obtain a higher qualification.

All countries report the lack of a regular system for tracing school leavers' success and failure on the labour market. The above-mentioned surveys are irregular (most of them are one-off surveys financed on an accidental basis), and they lack a consistent methodology. Several countries tried to elaborate a mechanism for the regular measurement of youth integration in the labour market by using the standard available statistics (e.g. Horačková and Ryška 1998, 1999 used unemployment registry, Vojtěch 1998 employed LFS data, Markausa 1997), but the analysis is circumscribed by the data sources and often happen to be somewhat mechanical, unable to follow the whole complexity of categories and factors of the school-to-work transition. Moreover, not all countries witness research in this field, but all of them report the school-to-work transition as one of the under-researched fields. Finally, our overview of the research on transition revealed that perhaps it is somewhat reduced to the school-to-work perspective, neglecting other transitional aspects, such as transition from unemployment to employment, from one type of employment to another one, inter-occupational transition, transition from the labour-intensive type of employment to the knowledge- and technology-intensive type of employment, transition between employment in large enterprises and SMEs and so on. Analysis of these notions from the perspective of the role of lifelong learning in lessening the transitional encumbrance may bring the analysts to useful recommendations.

5.2.4 Labour market requirements and skills mismatch

The research on school leavers in the labour market is closely connected to the research on labour market requirements. Indeed, while the trace studies on school leavers in the labour market try to understand the reasons for success and failure in integration into employment, measuring the failure by type, level and branch of education, there are a number of studies that attempt to undertake a preventive approach. They survey the employers' needs in terms of the qualifications and skills of the new labour force, and draw up conclusions on the implications for education and training. It should be admitted that this type of study is not very widespread in CEE yet, and the main reason behind the limited analysis in this area is the costs connected to such types of research. The system of social partnership is still very weak in these countries, and it is rather difficult to persuade branch associations and employers to take interest in and to take charge of generating this type of data and information.

The lack of employers' commitment to cooperate with educators in defining qualification standards is partly compensated by the surveys on employer's needs, mostly paid and organised by the state, the non-governmental sector or foreign donors. The surveys, which have been reported by CEE countries, either take the form of questionnaire surveys among employers or embrace a wider scope of the pro-active operation, involving social partners in the discussion and verification of

the survey results and statistics otherwise available. The latter approach is particularly important as in the long run it may help to activate the role of the social partners in the development and adjustment of VET provision in their branches.

The questionnaire survey *Graduates on the labour market: what do employers expect?*, conducted in the framework of the OECD project INES, was designed to measure employers demands in terms of skills and competences. It was carried out among 820 Czech companies that employed more than five employees, at least one of them being a school graduate recruited within last two years (Šťastnová et al. 1998).

The survey *Graduates on the labour market: what do employers expect?* (Šťastnová et al. 1998) revealed that Czech companies expect first of all to recruit young candidates with a comprehension of quality and entrepreneurship, a propensity to learn in order to deepen their knowledge or obtain a new qualification, and who are flexible and adaptable to new environments. The schools are assumed to be primarily in charge of providing broad general knowledge, developing verbal and writing skills, and learning aspirations. The companies declared their preparedness to train young people in vocational subjects, health and safety at work, and develop their entrepreneurial skills; they, however, expect schools to take charge of the provision of foreign language proficiency, managerial skills, quality comprehension and customer-oriented skills, self-confidence, motivation, and initiative. Therefore, employers primarily lack social or core skills among school graduates rather than professional competences, and moreover, the employers assume their readiness for providing necessary vocational training leading to excellence in qualifications.

The objective of the *sectoral study in the wood processing and furniture idustry in Estonia* (1999) was to assess the importance of the factors influencing its development, clarify the current situation and workforce requirements, including future training needs. The questionaire survey and indepth interviews covered 165 SMEs (PW Partners Ltd. 1999).

Most of studies on employers' requirements are organised either at a sectoral or at a regional level. Estonia organised a sectoral study in the wood and furniture industry (Jogi 1999) with an attempt to employ a more proactive approach, actively involving employers' representatives in debates on the results of the survey. The survey demonstrated that companies experience skills shortages among qualified labour, not in terms of the numbers among the prepared workforce but rather in terms of skills and competences. On the top of the lack of entrepreneurial skills, a sense of responsibility, commitment and other social skills, as well as thorough theoretical knowledge, the companies see a lack in practical skills, insufficiently provided at schools. The peculiarity of the perception of small enterprises was demonstrated in their appeal for a staff with multiple skills, capable of fulfilling the entire cycle of the production process.

Transition economies have been characterised by a situation in which the job profiles were changing more rapidly than the system of occupational standards. Many jobs are new on the list of occupations or their content has changed so much that the skills required do not correspond to vocational qualifications formally requested for job performance. Therefore the mere measurement of shortage and surplus occupations or enquiries into recruitment problems are insufficient. The added value of the research into particular skills and competences is therefore unquestionable. Another aspect of possible research is the reconstruction of actual job profiles as a tool to upgrade vocational standards. Job analysis (the nature of tasks performed, work environment, responsibilities and perceived skills required) was undertaken in the survey on needs in management training in the banking and financial sector (Deloitte & Touche, 1996). The latter survey also scrutinised customer attitudes in order to enrich the skills perspective.

VET in the context of regional development was a project initiated by the ETF in four pre-accession countries (Czech Republic, Hungary, Poland and Slovenia) and implemented by National Observatories in 1998. The studies analysed the

education and training provision, labour market and institutional development in selected regions of the four countries. The Czech Republic conducted a company survey to help to measure qualification supply and demand mismatch in the coming two years in the Ostrava region. Although the project did not involve other CEE countries, some of them took their own initiative and conducted research at a regional or local level, displaying a particular need in such studies.

A number of studies on labour market requirements were undertaken at a regional or county level, varying from a quantified measurement of the present shortage and surplus occupations (Rittau et al. 1998 in Poland) and the training needs analyses (Podravje region 1997-1999, including SMEs needs analysis in 1998, in Slovenia) to rather complex studies on VET in the context of regional development (Versa 1998 in Slovenia, Kidyba and Kozak 1998 in Poland), including the supply/demand analysis (PMU/OBS/IC003, 1998 in Bulgaria, Czesana and Strietska-Ilina et al. 1999 in the Czech Republic, and Cvetkova et al. 1999 in Latvia). Regional development is a process still in its starting phase in the CEE countries. Some of them have established regions and basic structures and responsibilities (Poland, Hungary), others have just undergone the legislative process or are still engaged in debates over the regional reform. In this context the regional perspective of socioeconomic development, labour market requirements, and education and training offers becomes very important. Matching supply and demand may best be addressed at the local level and support the establishment of regional and local ties among key institutions. In the context of preparation for EU accession and entering into pre-structural funding, including the European Social Fund, the regional research perspectives are rendered ever more important. Moreover, if such research is undertaken and discussed in collaboration with broad partnerships in the region, it may by itself promote regional development. Therefore, as in the case of other research seeking to anticipate the education and training needs at a sectoral or national level, the primary added value of regional studies is its 'collaborative' character. This type of research should be further promoted and supported in a systematic way in the CEE countries, where both methods and coverage have immense room for enhancement.

5.2.5 Prognostic research and strategies

Zecchini (1997) rightly noted that existing statistical services in CEE are not prepared to measure facts which are not directly observable in all their detail. He further noted that 'the tradition of precisely and meticulously quantifying facts related to the implementation of the central plan was suited to an era in which the economy was dominated by few large firms over which the government held strong control...' (p.4). Indeed, in the past most CEE countries had an elaborate mechanism and infrastructure for manpower planning as an integral part of the overall economic planning. With the end of the communist regime the old practices were abandoned and institutions dissolved. The word 'planning' acquired very negative connotation and attempts to conduct prognoses had little recognition in the societies.

The situation has recently changed and in a few countries future oriented studies have been conducted. The research that deals with the needs and requirements of future labour force training, which we provisionally call 'prognostic' research, may occur in very different forms. The research also may have a different time span for prediction or planning strategy. Short-term forecasting is much better developed and more widespread than mid- and especially long-term oriented prognostic research. At the same time the need for a longer term anticipation of qualifications and skills requirements, which can go beyond the educational cycle, has started to be recognised.

Prognostic research varies from the relatively simple collective brainstorming of experts and social partners with an attempt to verify existing statistics and to produce an outlook for future development, to quite complex attempts at quantified forecasting models, and to a rather complex mixture of qualitative and quantitative methodologies for elaborating scenarios and strategies for future policies. In CEE prognostic research uses methods

available and at some point applied in the EU member states, where most quantified forecasting models are based on retrospective data and extrapolation of the past trends on the future. In the West, the traditional forecasting models were abandoned by some countries (e.g. France) after the oil shock of the 1970s when the method proved its inability to produce a reliable forecast in exceptional conditions.

Unlike traditional forecasting, scenarios present alternative images (van Wieringen and Dekker 1999), and proved functional in a changing environment. In the case of CEE countries the latter point is especially important, as the reliable retrospective data comparable over a longer time period and the sectoral employment forecasts supplied by macro-economic models, necessary for manpower requirements models, are often not available (NO of VET and Labour Market 1999).

Scenarios certainly cannot fully substitute the presence of data, moreover, the approach itself requires sound statistical data for the initial context analysis. The scenarios method is not meant to 'de-legitimise the work of those who try to improve the statistical and labour market information base. It is just meant to lay stress on the question of whether there are additional, alternative, faster, and simpler ways of taking decisions about the development of education and training' (Baumgartl et al. 1999, pp. 186-187). Examining the scenarios method as such is not an objective in our study and we shall simply concentrate on examples of projects using the scenarios approach which either occurred in the countries in question or involved their participation (see more on examples of projects based on the method of scenarios elaboration in van Wieringen and Dekker 1999).

In CEE countries the scenarios approach started to be discussed and subsequently developed in 1997, at which time Estonian researchers were in the forefront. Estonian 'Education scenarios 2015' were developed with the objective of initiating discussion in society about the future of education and receiving public support and contribution for the development of strategy in education policies. The idea emerged and started to develop among the members of the Education Forum Committee along with those involved in the elaboration of the nationwide planning Estonia 2010 at the Estonian Institute of Future Studies (Jogi 1999). Thus, the elaboration of education policy scenarios took place hand in hand with the planning process at a macro level. The major assumption for scenarios elaboration was that the future of education cannot be observed separately from the future of the society. Two key factors, which determine the nature of the Estonian society, were chosen as a result of brainstorming meetings and a wider public discussion: cohesion and innovativeness of the society. In the light of these factors four models of the future Estonian society and corresponding education scenarios were drawn: a) Estonia of public schools (nation-centred Estonia), b) Estonia of permanent education reforms (corporate Estonia), c) Estonia of market education and elite schools (Estonia of the rich and the poor), d) learning Estonia (interactive) (Jogi 1999, Baumgartl et al. 1999). The idea of drawing up possible paths of development also implied that the core expert group, civil servants and decision makers would also draw a certain plan of achievement of the most positive scenario, and, even more importantly, would reach a certain level of consensus on how to achieve that.

Scenarios and strategies for VET in Europe is a project initiated by Cedefop, supported by ETF and coordinated by Max Goote Expert Centre at the University of Amsterdam. The project eventually involved five CEE countries (Estonia, Czech Republic, Hungary, Poland and Slovenia) along with five EU member states. The project 'aims to develop a tool to improve the understanding of VET systems in their economic-technological, employment-labour and training-knowledge environment' (van Wieringen and Dekker 1999, pp.3).

Another, most recent example of scenarios elaboration was the international project Scenarios and strategies for VET in Europe. The study is based on the Delphi method – the structured consultation of selected experts through questionnaires. The project intends to identify not only scenarios and strategies

1336

for VET in the involved countries, but also to define the most suitable scenarios and strategies for VET in Europe. As only the first phase of the project has been completed, it is impossible to speak about specific results yet.

It is, however, noteworthy that even on the basis of preliminary results CEE countries often have a sound distinctiveness in defining trends, strategies, key actors and scenarios as compared to the EU member states. The distinctiveness is not necessarily indicated as a difference but rather as giving more or less importance to the same factors. For instance, in scoring the responsible actors for the strategy both the CEE countries and the EU member states assign the same importance to the nation state. However, the EU member states assign a bigger role to the EU agencies than the CEE countries, while the latter undervalue the role of the trade unions as a responsible actor. Furthermore, on average the respondents from the EU countries assign larger responsibility to the individual than respondents from CEE (van Wieringen and Dekker 1999, pp.102). This is given to a large extent by the shared past experiences of the CEE region, its egalitarianism on the one hand, and aversion towards certain types of institutions and partnerships that in some way connote the 'officialdom' of the past regime.

The CEE countries also remarkably differed from the EU member states in weighing the relevance of the strategies and scenarios provisionally developed in the project in a number of cases. In terms of importance for CEE in the context of economy and technology, the key issues seem to be those of providing incentives for the private sector and social partners to encourage their engagement in training, developing learning organisation and knowledge management, and forecasting specific needs. In the employment and labour market context a strategy based on the modern workforce (flexible, part-time, employable, entrepreneurial) was rated by all participating in the project CEE countries as highly relevant, whereas scenario dimensions 'changing in the workplace' (the organisation becomes multicultural; ICT, knowledge management and social skills become more important whereas hierarchies become less important) and 'mobility of labour' (trends towards mobility of labour in flexibilisation, new combinations of work and training, but also higher migration) were not largely shared by the CEE countries, and Slovenia was the only country that supported both scenario dimensions.

The certain contradiction in weighing scenarios and strategies in the context of the employment and labour market is given by the fact that scenarios are built by exploring certain developments, measuring responses on how the selected 23 trends are important and likely for the given country. In other words this means that although the strategy based on the modern flexible workforce may be highly relevant for CEE countries, scenarios based on the 'modernisation' of the workplace and the increase in the flexibility and mobility of labour may not yet be feasible.

In the context of training, skills and knowledge, the CEE countries lay stress on reforming the VET system as a whole (decentralisation, flexibility, expansion) rather than changing the role of VET providers and flexibility in training programmes. The CEE countries are at the top of the list for relevance of the strategy based on a transparent qualification structure and mobility, and on individuals investing in their own training (van Wieringen and Dekker 1999, pp.134). Although CEE countries generally support European scenarios and strategies, the abovementioned preferences show that the systemic reform process in CEE has not been completed yet, whereas other European countries concentrate on scenarios and strategies based on more targeted measures.

As we have already mentioned the above results are only preliminary and may be verified by further analysis. The involvement of the CEE countries in the project on scenarios and strategies in VET in Europe has been no doubt very beneficial, albeit the methodology itself may appear somewhat disputable. Although the scenarios method intends to overcome the limitations of traditional forecasting approaches, based on extrapolation of

1339

retrospective trends to the future, to some extent the same shortcomings could be observed also in the scenarios method itself. The method is based upon the experts' analysis of the past developments, but also upon their comprehension of the present and future evolution. The human brain has natural limitations in its ability to innovate and imagine the future. This drawback could also be in evidence in other anticipative research based on the Delphi method, which relies on expert judgement – the second-hand testimony of the factual state of affairs.

Whether or not the results of the application of such methods are reliable is a long standing scientific debate, but one thing is certain: it is the added value that the method encompasses, perhaps not necessarily in the result itself only but more so in the process of obtaining the result. The scenarios project as well as several other examples of qualitative research undertaken with an attempt to anticipate future developments and qualification needs managed to put partners from different fields together and make them discuss the problems and possible measures for tackling them. These debates bring about the first step to a common understanding and eventual compromise around very urgent problems, and helps people to start working together on their solution.

The project *Regular forecasting training needs: comparative analysis, elaboration and application of methodology (LABOURatory)* is led by the Czech National Observatory in cooperation with CERGE (Centre for Economic Research and Graduate Education, Charles University). The project involves a broad trans-European partnership of leading institutions in the field of forecasting and anticipation of labour market needs: ROA (Research Centre for Education and the Labour Market, the Netherlands), ESRI (Economic and Social Research Institute, Ireland), IAB (Institute of Employment and Occupational Research at the Federal Institute of Labour, Germany), and OREF (Regional Employment and Training Observatory, Burgundy) and Quaternaire in France. The partnership further involves Slovenia and Poland. The project, which is in its interim phase and will be completed in March 2001, seeks to elaborate a complex forecasting methodology, based on quantitative and qualitative methods.

Forecasting qualification needs is only starting to be developed in the CEE countries. There have been attempts in Hungary and Poland, and feasibility studies in Estonia (Corcoran 1997), Latvia (Guegnard and Perier-Cornet 1997). Recently the Czech Republic started to develop a methodology based on the manpower requirement approach in the framework of the project *Regular forecasting of training needs: comparative analysis, elaboration and application of methodology*. The project tries to utilise partners' experience with different methods: the manpower occupational forecast, which takes into account all relevant flows, determining the supply and demand for school-leavers on the labour market; analysis of changing trends in broadly defined occupations and sectors, and future skill requirements for the decision making level to help to elaborate medium-term labour market strategies and educational planning; and expertise in forecasting for the Eastern Länder in the similar conditions of economic transition.

The objective of the project is to elaborate the mid-term (5 years) forecasting methodology for use at a national level by decision makers, guidance services and individuals. However, due to the lack of data and the absence of bridges between classification systems in the fields of education and employment, the results will not be valid at a regional, and a sub-sector level (NO of VET and Labour Market 1999). There is a need to complement quantifying forecasting based on partially available data and a relatively short time span of retrospective data with reliable techniques to estimate the correct figure for a given aggregate. Zecchini (1997) was accurate in characterising the situation of data availability in CEE, saying that 'proper estimation is more useful than incomplete data' (p.4). Therefore, the quantified forecasting models will be enriched with anticipation mechanisms for analyses at a regional and a sectoral level, where experience of OREF and Quaternaire will be applied respectively. The result of the project shall be a forecasting model along with alternative corrective instruments adjusted to exogenous shocks of transition economies, and therefore functional in uncertain conditions.

Forecasting as well as different forms of qualitative anticipation of labour market requirements cannot serve as a direct guide to action but rather as indicators of trends and developments which are to be taken into account by the public as well as by the decision making authorities in planning and strategy development. The strategy elaboration process as such did not emerge by itself in the CEE countries and took place no earlier than the second half of the 1990s, being especially notable in recent years when a wave of conceptual analytical documents were elaborated in different CEE countries. This development was stimulated by a number of reasons.

First, after the completion of the Phare VET reform in its pilot phase, the countries needed a comprehensive evaluation of the results and subsequently an elaboration of a national strategy of further development of the system in the new phase of transformation, when the initial reforming euphoria was left behind, and a new, more pragmatic and targeted approach was needed.

Second, the advancement of the transition process brought the nations from the survival mentality to a definition of priorities and concentrated actions.

Third, the process of preparation for EU accession has fuelled the strategy and planning development.

Finally, the research component itself reached the level of maturity when at least partial intersectoral and inter-institutional cooperation became possible, and this collaboration generated the inter-disciplinary analysis and elaboration of comprehensive studies and concepts.

No matter which CEE country the strategy has been developed in, there are certain domains that are relevant for the whole region:

- the move towards a more decentralised VET system and a system of curriculum development and an elaboration of standards,
- enhancing the role of social partners in curriculum and standards innovation and the anticipation of labour market requirements,
- support for financial and tax incentives to increase access and participation in lifelong learning at all levels and in various forms,
- the provision of targeted support measures for disadvantaged groups to reinforce social inclusion, and to enhance system incentives to promote equality of opportunity in access and participation in lifelong learning,
- continued reform of the systems allowing for more flexibility, horizontal and vertical permeability, and diversification of education offered in order to meet the diversity of needs of economy and learners,
- a system of educational standards and qualifications and a system of quality assurance and accreditation,
- allowing for transparency and compatibility, providing a broad theoretical basis and social/core skills in educational preparation,
- enhancing the modern teaching methods, which develop creativity, initiative, responsibility and independence among pupils by improving teachers training,
- improving the teaching materials, tools and school equipment in response to the needs of a knowledge based and information society,
- support for anticipation analyses of the skill needs to provide employable workforce for the future.

All strategies have been based on the assumption that human resources are a crucial component in the development of the societies in all sectors, and on the recognition of education as an opportunity for the whole society to meet the economic objectives of the community as well as individual aspirations (Cerych et al. 1999; Hendrichova (ed.) 1999; Pusvaskis 1998; Lamoureux et al. 1999 and

others). We must note, however, that comprehensive strategic research in its primary sense is still very scarce. A lack of strategic future oriented thinking is compensated by a series of efforts and institutional collaboration, which brings about alternative perspectives and eventually generates policy documents. In the field of research per se, however, this is not enough, and there must be a serious effort undertaken by national authorities and the international community to enhance research capacities, expertise, and comprehensiveness in understanding the issues of concern for researchers worldwide.

6.Conclusions and recommendations

6.1 Conclusions: shortcomings and 'gaps'

Our initial analysis started from an assumption that the research gaps (i.e. neglected or abandoned areas of research) and the research priorities are determined by the tremendous changes occurring in the countries of CEE. These changes in CEE are a part of the double transformation, where the transition from planned to market economy is multiplied by the challenges of global transformation. We therefore suggested that the gaps and priorities of CEE research would be largely prescribed by the reform process, would concentrate on the requirement aspect of VET and would have much in common among the CEE countries. We also suggested that VET research would have a higher level of production and maturity in the countries where VET itself enjoys a long-term tradition and relative prestige.

Our analysis has brought us to several conclusions. First, indeed the background country reports confirmed that a major demand in research is concentrated in the area of requirement (or contextual) type of research with the emphasis on the needs of the labour market. Nevertheless, at the same time the contextual research with the reference to the labour market requirements was the most frequent in the reports and could be traced in all CEE countries. Somewhat more developed this area seems to be in Poland, Hungary, Czech Republic, Slovenia, Estonia and Latvia, but, to stress it again, it is also well existent in other CEE countries.

Second, our hypothesis about a high degree of accord between the countries in identification of major priorities was confirmed. This demonstrates that although all CEE countries are at a very different stage of the reform process, and have different VET traditions and cultural backgrounds, the principle features of the transition, which are rather common for all countries, determine the current research.

Third, and most important, the VET research in CEE has fairly successfully reacted to the major challenges of the socioeconomic development, quickly responding and adjusting to the immediate needs. A great deal of research efforts have been undertaken as a reaction to major challenges of the transition process: rapidly rising unemployment, growing social and skills inequalities, skills mismatch, and within this context inadequate diversification of VET programmes and the systems themselves, ineffective financing, teaching methods and qualifications of teachers, too narrow vocational specialisation and insufficient mechanisms for innovation of curriculum, standards and quality assurance. The VET research claimed to play its role in the reform process, adopting a pro-active approach and enthusiastically participating in development projects.

Our initial hypothesis of better research coverage and greater maturity of VET research in the countries where VET itself enjoys higher prestige was not confirmed. The analysis showed that there were other factors that influenced the research development in the CEE countries, where the existence of a research institute, development of the university-based research or participation in international granting schemes had a greater impact on VET research than the prestige of VET. We may, however, suggest that the countries, where recent years displayed a shift towards comprehensive conceptual elaboration of the overall system of human resources

1342

development at the national level in the concept of lifelong learning, enjoyed integration of VET into state or public driven conceptual works. This manifested the most positive development of recent years as far as VET research in CEE is concerned.

Although VET research managed to successfully cover the most acute problems on the agenda of the countries in transitional, the study has revealed an insufficient coverage, inadequate quality, poor methodological approach and inefficient organisation in a number of areas of VET research in CEE:

- Under the turmoil of the reform process, the VET research has tried to find immediate solutions to complex socioeconomic problems. Out of the two components of the transition process, the VET research has rather reacted to the principle demands of transformation towards free market economy and democratic society. The global challenges, imposed by the growing importance of knowledge intensive industries, the services sector, SMEs, and related to these question of access to knowledge, information and ICT have not been tackled to the same extent.

- In the pursuit for quick and immediate solutions, and being under time and financial constraints, the VET researchers and practitioners in CEE often tended to look for ready made answers, which came into being in the form of the models adopted from the West and with the international financial assistance. A thorough systematic analytical work into verification of the feasibility, adjustability and impact of such adoptions was not in place. In spite of the invaluable input of international expertise to the process of advancement of the VET reform, the role of national research in the reform process was often neglected. As the result the VET reform process did not sufficiently contribute to VET research development, especially at the beginning of the transition period. The notions of a primary concern for research in the EU member states are not always adequately tackled by the CEE research. The CEE countries found themselves in the situation where the challenges they have to tackle are primarily the same as in the EU member states but on the top of it they must find quick answers to most urgent questions of the democratic reform process. Being a driving force for change, researchers and analysts happened to be a 'hostage' of the same reform process. The urgent has often prevailed over the conceptually important in a longer term perspective. The recent years have, however, featured a number of positive examples of a thorough conceptual approach in the elaboration of further steps, though still somewhat missing a scientific hand on it.

- The national reports have demonstrated the peculiar domination of the analytical works in the field of labour market requirements over conceptual and theoretical research into aspects of process and outcomes of VET in recent years. This has been strongly determined by the rapid economic change. In spite of the general reproach expressed by all (!) CEE countries about the lack and insufficient development of labour market needs analysis, we may state that the problem was rather a lack of a systematic approach, and effective and efficient methods in such analyses. Moreover, the VET research has been somewhat subordinated to the labour market analysis, while the theoretical research in the field of process and outcomes of VET has been neglected. Slightly more evidence of research into processes and outcomes of VET were observed in Lithuania, Hungary, Poland, Czech Republic, Slovenia, Romania and Bulgaria.

  The subordination to the labour market requirement was not a negative development *per se* but it threw out the baby with the bathwater. What is it that we are trying to harmonise VET provision with the labour market requirements for? It is the life success of the individual, his employability, but also his ability to learn in the future and to be a successful and active citizen. The role of the individual has been somewhat overlooked in the research, where the success of the individual was reduced to his success in employment in

the future. The concept of lifelong learning gives a broader perspective and needs to be better addressed in the research into different fields of VET. Furthermore, the needs of individual learners must be also better addressed in the context of employment – in the framework of CVT and HRD in enterprises.

- The VET research in CEE has mainly had an applied or developmental character. Theoretical scientific research has been almost totally abandoned in a majority of the CEE countries; Lithuania was virtually the only exception where theoretical scientific research into VET is well situated in the academic surrounding of the country. Such development in CEE on the one hand appeared as a positive shift from highly theoretical academic research, isolated from reality, towards more practical and developmental research. On the other hand this can turn into a very dangerous development. The absence of theoretical or basic research is not something that could be felt immediately but it may restrain development in the long run. Putting research closer to practice certainly does not mean abandoning theoretical research. The mechanisms should be found how to implement the scientific findings into practice.

- To the contrary of our previous statement, several countries reported insufficient development of applied research (Slovakia, Estonia, Albania, Hungary, Romania). The reasons behind the statements are largely caused by the same reasons: a lack of mechanism to follow up research projects and implement recommendations. There is a gap in between "what to do?" and "how to do it?" (Mustafai 1999). Specific types of projects, aimed at the dissemination or implementation of results of the research, are not frequent and must be enhanced.

- The VET research in CEE proved to be highly fragmented, where each sub-sector of the VET system or a particular field were researched separately. This was also reflected in the institutional arrangements that separate curriculum research, research on standards from the labour market research, research on initial VET from research on CVT and HRD, etc. Each institution specialises in its domain, in which they would run both research and development projects depending on the context and funding, but would rarely go beyond their scope of operation.

  A comprehensive conceptual approach in research started to be developed in recent years and manifested a new qualitative change in the reform process. The national researchers adopted a more cautious approach in implementation of the foreign models and started to look at the research traditions in their own countries. From taking the value of Western models and methods for granted there has started a shift towards a more thoughtful approach, reliance on the national researchers and practitioners, and attempts to look at the education and training in a broader context of lifelong learning, human resources development and global changes. The positive shift must be further supported and promoted where multidisciplinary research and a corresponding inter-institutional collaboration must take a lead.

- In the transition turmoil the VET research has had very limited financial sources in CEE. This has contributed to fragmentation of research, brain drain from research, subordination to the immediate and most urgent problems, attempts to find ready-made solutions of complex problems, dependence on the external sources and therefore subject to specific restrictive regulations of the foreign aid. Some countries evidenced insufficient development of the empirical research due to the financial constraints. Where national sources are very limited, efficiency of the research organisation is vital. The research function needs more transparency, coordination and flexible mechanisms of grant support at the national level. Inter-institutional cooperation, coordination of efforts and synergy between different institutional structures, diversification of funding sources and a greater participation of private and civil society sectors in the VET research can contribute to the efficiency.

Under the circumstances of the economic hardship and limited spending on research and development in CEE, the role of international financial assistance is indispensable. It has, however, concentrated rather in the area of development projects than in assisting research to undergo the transition period. It is the duty of each particular CEE government as well as of the international society to help research to overcome the scientific discourse caused by the decades of the realm of the communist ideology. The role of the research as a central support point in the reform process, where research is both cause and effect of the transition, is essential for overcoming short-sightedness and old-fashioned mode of the CEE research.

In spite of fairly successful reaction to most urgent topics, the introduction of many new research fields in the research agenda, and successful coverage of the issues of concern of the reform process by the VET research in CEE, there have been certain *'gaps' or topics which need further elaboration*. These topics are of two types: country specific and general for the region. Confirming our original hypothesis, the vast majority of priority fields are common for the CEE countries. All or most countries state the need in supporting and developing research in the following fields: labour market training and qualification needs analysis, competence-based qualifications, broad-based qualifications, innovative teaching methods, teachers training and personnel development at schools, vocational and occupational standards, evaluation and quality assurance, financing of VET, transition from school to working life, systematic trace studies of graduates (including educational paths and career routes), modular training and its impact, the role of VET in promoting social cohesion, CVT, and HRD in enterprises. It is necessary, however, to add that the major drawback of CEE research is not in its gaps as such, but rather in the mode by which the fields are covered. It lacks a comprehensive perspective where each particular issue or field is considered against the background of lifelong learning and the strategic perspective of the systemic development of national human capital.

The country specific research priorities concentrate on particular problematic areas of VET present in these countries. For instance, a rather high rate of dropouts (over 10%) from education in Slovenia, Hungary, Latvia, Estonia, would suggest that the research into causes and effects of early school leaving as well as the identification of mechanisms to promote integration of the young into education or employment would be useful.

Another important aspect of country specific needs lies in the area of initial stocktaking information and data collection. At the beginning of the transition process the information tools were often inadequate for helping to design the policies, monitor policy effects and identify areas for policy adjustment (Zecchini 1997). After a history of governmental manipulation of statistics, a new approach also needed to be elaborated in the statistical services for the purposes of obtaining an accurate and objective record of relevant social and economic phenomena (Zecchini 1997). While in most CEE countries the initial phase of reforming national statistical services and the minimum requirement of reliable stocktaking data for the monitoring and adjustment of social and economic policies has been mainly fulfilled, in Albania it is clearly not the case. The statistical provision in the latter country hinders research and analysis and the subsequent policy innovation. Thus, statistics on education and the labour market should be urgently improved in Albania. Nevertheless, other countries also suffer from inappropriate data coverage, especially in the area of CVT, HRD in enterprises and financing of initial and continuing education and training by type of sources (including private sources and expenditures on education by enterprises).

Involvement of the CEE countries in the process of elaboration of the common terminology in the field of VET and support to a greater transparency in the VET vocabulary is important for promotion of com-

parable cross country analyses and stipulation of a benchmarking perspective to each particular state.

The CEE research in the field of VET must harmonise conceptually and methodologically with the foremost international research community by consolidating its great intellectual potential and by relying on its experience in playing a prominent role, which the CEE researchers and other intellectuals have played in supporting democratic developments in their countries.

6.2 Policy implications

The challenges of double transformation, the increased blurring of education and work, the challenge of the knowledge-based society and a lifelong learning perspective impose especial role for research in the field of VET. The research in CEE is in the process of change itself; at the same time it should become a core point of initiation, analysis and elaboration, and expert support in implementation of the major reform steps. This implies the importance to support the research provision and organisation in the CEE countries in the following dimensions:

- It is recommended to support research in the fields, where either country specific or cross country research gaps have been identified (see above). It is equally important to support research in the fields, which have enjoyed relatively high frequency, nevertheless, lack conceptual maturity, methodological excellency and comprehensive understanding. Stocktaking information gathering is equally a priority, especially in the countries where the absence of data hamper efforts of analysts and present an obstacle in strategic conceptualisation.

- In order to facilitate research generation and effectiveness the following institutional measures are recommended:

  - to support the establishment of cross-sectoral coordination and granting structures for research (e.g. research boards) in the CEE countries, where such bodies are not in place yet;

  - to support building project management capacities at research institutes and universities in CEE in order to promote their better participation in national and international research and development activities;

  - to define and publicise national research priorities and strategy on a regular basis;

  - in commissioning grant schemes at a national level a balance must be found between research projects commissioned on order from the top and open calls for proposals aimed at supporting the local research initiative and inter-institutional collaboration;

  - to enhance information provision and wide dissemination on the available research outputs in order to increase inter-institutional awareness and co-operation;

  - the governments shall seek after diversification of financial sources for VET research, promote incentives to increase participation of private bodies, companies, voluntary sector in research into VET.

- International organisations (especially OECD, European Commission, World Bank, ETF and Cedefop) in many cases have been a driving force of information provision and research generation. It is recommended:

  - to broaden the eligibility of international research programmes and analysis to other countries in transition in order to contribute to a better co-operation of research networks across Europe, facilitating exchange of experiences and methods;

  - in the international support programmes (e.g. Leonardo da Vinci, Vth Framework, projects commissioned by ETF) to ensure the suitability of the topics of selected projects to the national priorities and needs; this implies greater and tighter cooperation

1346

between international organisations on the one hand and the national governments and research communities on the other;

- to support cross/trans-border research projects, international partnerships, international comparative analyses;

- to support the establishment and sustainability of research thematic networks across European countries, both EU and outside.

- In order to increase awareness of research results, improve adequacy of research to practice and diversify research outputs, the following *types* of research should be enhanced and must be taken into account in evaluation of proposals:

  - university-based or academic research, linked to the world of work and policy making;

  - research initiated by a private and voluntary sector with the involvement of counterparts from the public and academic research community;

  - interdisciplinary, multidisciplinary research;

  - applied research in a solid theoretical framework;

  - comprehensive research which embraces the whole system analysis in a broad perspective of lifelong learning;

  - preparatory research, aimed at identification of research needs and subsequent project generation;

  - follow-up projects, aimed at implementation of previously done research analyses, tackling outcomes and recommendations of research, dissemination projects;

  - prospective, future oriented research and elaboration of methods for such research.

Finally it could be stressed that 'cross-national studies and increasing transnational knowledge may add to a process of integrating Western and non-Western approaches' in science, the added value of such cooperation being the increased knowledge about other countries among both the researchers involved in such studies and also those who have access to the results (Oyen 1999, p.190). Our analysis has been only a first attempt to map the research in the field of VET in CEE and we very much hope that further elaboration with a focus on particular topics will bring about greater transparency in the VET research fields and methods in the future.

References and bibliography

List of references

Allison C., Ringold D., 1996. *Labour markets in Transition in Central and Eastern Europe: 1989-1995.* World Bank technical papers No. 352. Washington, D.C.: The World Bank

ANO, 1999. *Report on management training and continuing vocational training in Albania.* Tirana: MoLSA

Atal Y. ed., 1999. Introduction. *In:* Atal ed., *Poverty in transition and transition in poverty.* UNESCO publishing, Paris, New York – Oxford: Berghahn Books, pp.1-31

Balica M. et al., 1999. *VET research in Romania.* Bucharest: Romanian National Observatory

Baumgartl B. et al., 1999. Developing VET scenarios in Central and Eastern Europe and their added value for policy-making. *European Journal of Education*, **34** (2), pp.177-194

Beleva et al., 1999. *Background study on labour market and employment in Bulgaria.* ETF. Luxembourg: EUR-OP

Bialecki I. ed., 1996. *Education in a changing society.* Warsaw: Ministry of National Education

Birks Sinclair and Associates Ltd., 1993. *Strategic review of vocational education and training - Czech and Slovak Republics.* Prague: Labour Market Restructuring Programme

Birzea C., Balica M. et al., 1999. *Impact of the Leonardo da Vinci Programme on vocational training in Romania 1997-1998.* Bucharest: National center of the vocational training programme, Leonardo da Vinci, Romania

Birzea C., et al., 1999. *National strategy for human resources development,* Romania NO

Bobeva D., 1997. *Migration, Europe's integration and the labour force brain drain. Synthesis report.* EC: COST

Bogetic, Ž., Chattophadyay, S., 1995. *Efficiency in Bulgaria's schools: A nonparametric study.* Policy research working paper No.1422. The World Bank

Buck B., 1997. *Integration of work and learning: a challenge for both schools and companies.* Contribution to the ETF workshop on Integration of work and learning, Bled, September 1997

Ciobanu A. et al., 1999. *Background study on labour market and employment in Romania.* ETF. Luxembourg: EUR-OP

CNA Veneto Euro-In Consulting, 1998. *Study on labour market and related implications on the manpower provision by the VET system in Romania.* Ministry of National Education, EU Phare programme

Compendium 1997 Projects - Leonardo da Vinci. European Commission. Luxembourg: EUR-OP

Corcoran T., 1997. *Labour market information in Estonia.* Tallinn: Estonian NO

Coufalik J., Goulliová K., 1999. *Alternative approaches to financing lifelong learning. National report to OECD.* Prague: NTF. Available from Internet: http://www.nvf.cz

Csako M., 1998. *Identifying and assessing VET research institutions in the Phare and Tacis partner countries.* ELTE, Hungary: ETF

Cvetkova et al. 1999. *Human resources and vocational education in regions of Latvia.* Riga: Academic Information Centre – Latvian National Observatory

Czech Statistical Office, 1999. *Statistical yearbook of the Czech Republic*

Czesaná V., Strietska-Ilina O. eds., 1999. *Analýza rozvoje odborného vzdělávání a institucionálního rozvoje v Ostravském regionu.* NO-NVF. Praha: Tauris

Čerych et al., 1999. *Czech Education and Europe: Preaccession strategy for human resource development, Education Policy Association.* Prague: Tauris publishing

Deloitte & Touche, Banking Institute, 1996. *A study of needs, demands and supply of management training in the banking and financial sector of the Czech Republic.* Prague: Deloitte Touche Tohmatsu International

Dienys V., Pusvaskis R., 199?. Change of vocational training during first step of the education reform. Journal Vocational education: research and realities, **1**. Kaunas: VDU pp. 18-24

Dlugokecka ed., 1996. *MOVE programme. Modernisation of vocational education. Final report.* Warsaw: BKKK

1346

Drienský D. et al., 1999. *Výskum v oblasti odborného vzdelávania a prípravy*. Bratislava: Slovak National Observatory

Drogosz-Zablocka E., ed., 1999. *Badania w dziedzinie zawodowej edukacji poczatkowej I ustawicznej oraz szkolenia zawodowego (VET) w Polsce*. Warszawa: Polish National Observatory

Eamets et al., 1999. *Background study on labour market and employment in Estonia* ETF. Luxembourg: EUR-OP

Ellman, 1997. Transformation as a demographic crisis. *In*: Zecchini ed., *Lessons from the economic transition: Central and Eastern Europe in the 1990s*. OECD. Dodrecht. Boston. London: Kluwer Academic Publishers.

ERT, 1998. *Job creation and competitiveness through innovation*

ETF, 1998. *Enhancing the role of social partner organisations in the area of vocational education and training in associated countries of Central and Eastern Europe*. ETF. Luxembourg: EUR-OP

ETF, 1998. *Vocational education and training in Central and Eastern Europe: Key indicators*. ETF. Luxembourg: EUR-OP

ETF, 1999. *A cross country analysis of curricular reform in vocational education and training in Central and Eastern Europe*. ETF. Luxembourg: EUR-OP

ETF, 1999a. *Transnational analysis of vocational education and training in the countries of Central and Eastern Europe*. ETF. Luxembourg: EUR-OP

ETF, 1999b. *VET against social exclusion*. Round table Bohinj (Slovenia) October 1998. ETF. Luxembourg: EUR-OP

ETF, 1999c. *Vocational education and training in Central and Eastern Europe: Key indicators*. ETF. Luxembourg: EUR-OP

ETF, 1999d. *Continuing vocational training: Cross country analysis*. ETF. Luxembourg: EUR-OP

EU Phare 1998. *The white paper, Vocational education training (up till university level)*. Vilnius: Leidybos centras

European Commission, 1999. *Employment in Europe 1999*. Luxembourg: EUR-OP

focus groups and in-depth interviews in Tallinn and Rakvere. EMOR Ltd.

Green, A. et al., 1998. *Synthesis of country reports on alternative approaches to financing lifelong learning*. Prepared for OECD. University of London: Institute of Education

Grootings P., 1998. *Integration of work and learning: A challenge for education and employment systems in transition countries*. Turin: ETF

Grootings P., Kalous J. et al., 1997. *From pilot schools to reform strategy. Outcomes of the Phare programme Reform of VET*. NVF, MŠMT. Prague: Fragment

Grootings P., Kalous J. et al., 1998. *Further transformation steps*. Prague: NVF, VÚOŠ

Gruzevskis et al., 1999. *Background study on labour market and employment in Lithuania*. ETF. Luxembourg: EUR-OP

Guegnard and Cvetkova et al. 1998. *Who seeks job in Latvia? Elements of analysis of the unemployment situation in Latvia*. Riga: Academic Information Centre, Latvian NO

Guegnard C., Perier-Cornet F., 1997. *Labour market training needs analysis in Latvia*. Bourgogne: OREF

Gurskiene O., 1999. *VET research in Lithuania*. Vilnius: National Observatory of Lithuania

Hendrichova J., ed., 1999. *Human resources in the Czech Republic*. UIV, NVF, Prague: Tauris publishing

Hennessey, M.A. et al., 1998. *Tertiary professional and vocational education in central and eastern Europe*. ETF/Council of Europe

Horačková D., Ryška R., 1998. *Uplatnění absolventu škol na tru práce*. Praha: MŠMT

Horačková D., Ryška R., 1999. *Nezaměstnaní absolventi škol*. Praha: MŠMT

Horvat T., 1999. *VET research in Hungary*. Budapest: Hungarian National Observatory

Horvath et al., 1999. *Background study on labour market and employment in Hungary*. ETF. Luxembourg: EUR-OP

ILO, 1998. *World employment report 1998 – 99. Employability in the global economy – How training matters*. Geneva: International Labour Office

Ivancic et al., 1999. *VET research in Slovenia.* Ljubljana: National VET Observatory Slovenia

Jackman and Pauna, 1997. Labour market policy and reallocation of labour across sectors. *In*: Zecchini ed. *Lessons from the economic transition: Central and Eastern Europe in the 1990s.* OECD. Dodrecht, Boston, London: Kluwer Academic Publishers

Jigau et al., 1998. *The professional integration of vocational and secondary school graduates.* Bucharest: National Observatory – Romania

Jigau et al., 1998a. *Vocational training and labour market in Romania.* Bucharest: National Observatory – Romania

Jogi K., 1999. *VET research in Estonia.* Tallinn: Estonian National Observatory

Kazancigil A., Makinson D., eds., 1999. *World social science report 1999.* London: UNESCO Publishing/Elsevier

Kidyba A. and Kozak M., 1998. *Vocational education and training in the context of regional development in Lublin region.* Lublin Warsaw: BKKK

Kluckhohn F.R. and Strodtbeck F.L., 1961. *Variations in value orientations.* Westport, Connecticut: Greenwood

Kofroňová O., et al., 1999. *Počáteční odborné vzdělávání v rámci celoživotního učení: Syntetická studie* (Initial VET in the framework of lifelong learning: Synthetic report). Praha: VUOŠ

Kompendium projektů 1995-1999 (Compendium1995-1999 Projects) - Leonardo da Vinci, National Agency, National Training Fund,

Kuebart F., 1996. *VET systems in CEE. A cross-country analysis.* Bochum: AVB

Kuchař P., 1999. *Absolventi škol ČR: Závěrečná zpráva sociologického výzkumu.* (*School leavers in the Czech Republic: Final report of the sociological survey*). Praha: NVF, UNIVERSITAS

Lamoureux et al., 1999. *Restructuring alternatives for Albania's vocational/technical education and training subsector.* Washington, DC, Tirana: The World Bank

Laporte B., Papali A., 1995. *Social challenges of transition: education sector.* Washington, D.C.: The World Bank

Laporte, B., Ringold, D., 1997. *Trends in education access and financing during the transition in Central and Eastern Europe.* World Bank technical paper No.361. Washington, D.C.: The World Bank

Lauzackas R., 1998. *Systemotheoretical dimensions of vocational education change. Summary of Dr. Habilitation dissertation.* Social sciences, educational science (07 S). Kaunas: VMU

Lubyová M. et al., 1999. *Background study on labour market and employment in Slovakia.* ETF. Luxembourg: EUR-OP

Markausa, 1997. *Professional education of young people and their prospects on the labour market.* Riga: Latvian Academy of Sciences, Institute of Economy

Martuzans et al.,1998. *Analysis of the response of the VET system to the new economic objectives in Latvia.* Riga: Academic Information Centre

Matějů P. et al., 1998. *Funkční gramotnost dospělých. Národní zpráva z projektu SIALS. Č.1. Hlavní výsledky.* Praha: SoÚ AV ČR a SC&C

Matějů, P., 2000. *Lidské zdroje, lidský kapitál a funkční gramotnost* (Human resources, human capital and functional literacy)

Mestenhauser J.A., 1998. Travelling the unpaved road to democracy from communism: a cross-cultural perspective on change. *Higher Education in Europe*, **XXIII**(1) Unesco, Carfax

Munich D. et al., 1999. *Background study on labour market and employment in the Czech Republic.* ETF. Luxembourg: EUR-OP

Munich et al. 1999a. *Returns to human capital under the communist wage grid and during the transition to a market economy.* Discussion Paper Series No. 1999-29. Prague: CERGE-EI, Charles University

Mustafai A., 1999. *VET research in Albania.* Tirana: Institute of Pedagogical Studies

Nagy M., 1998. Teacher Training in Central Europe: recent developments. *European Journal of Education*, **33** (4), pp. 393-406

National Observatory of Estonia, National observatory of Latvia, National Observatory of Lithuania. 2000. *Comparative analyses on VET system and regulate professions in Baltic States*, 55 pages

Nielsen S.P. et al., 1999. *A cross country review of needs, achievements and obstacles in Central*

and Eastern Europe: Reshaping the focus of vocational teacher and trainer training. ETF. Luxembourg: EUR-OP

NO of VET and Labour Market, 1999. *Forecasting education and training needs in transition economies: lessons from the Western European experience.* Prague: Tauris

NTF, 1997. *The transition from initial education to working life: Background report of the Czech Republic. Prague: NTF*

Oba J., 1999. The social sciences in OECD countries. *In:* Kazancigil A., Makinson D., eds., pp. 58-73

OECD, 1996a. *Reviews of national policies for education: Czech Republic.* Paris: OECD

OECD, 1996b. *Pilot project on regional co-operation in reforming general secondary education (Sponsored by EC/Phare). Secondary education systems in Phare countries: survey and project proposals.* Paris: EC/Phare/OECD

OECD, 1997. *The transition from initial education to working life. Country note: the Czech Republic.* Paris: OECD

OECD, 1998. *Labour market and social policy in Bulgaria.* OLIS, CCNM/DEELSA (98)64. Available from Internet: http://www.oecd.org

OECD, 1998a. *The transition from initial education to working life: Background report, Hungary.* Available from Internet: http://www.oecd.org

OECD, 1998b. *Reviews of national policies for education: Slovenia.* Paris: OECD

OECD, 1999. *Thematic review of the transition from initial education to working life. Final Comparative report.* Paris: DEELSA/ED(99)11. Available from Internet: http://www.oecd.org

OECD, 1999a. *The transition from initial education to working life: Country note, Hungary.* Available from Internet: http://www.oecd.org

OECD, 1999b. *Reviews of national policies for education: Czech Republic. Follow-up report.* Paris: OECD

Oldroyd D., 1999. *Advisory Forum subgroup final report: Innovative practice in teacher and trainer training in VET.* ETF. Turin

Oyen E., 1999. Transnational and cross-national social science research. *In:* Kazancigil A., Makinson D., eds., pp. 187-191

Palán Z., 1997. *Výkladový slovník vzdělávání dospělých.* NVF, Phare. Prague: DAHA

Parkes D., ed., 1999. *A cross country analysis of curricular reform in VET in CEE* ETF. Luxembourg: EUR-OP

Pavelson, 1999. *VET – starting point for career building.* Tallinn: Tallinn Technical University

Pert S., 1998. *Vocational training for the unemployed in Romania.* Bucharest: National Observatory – Romania

Petrova I. et al., 1999. *VET research in Bulgaria.* Sofia: Bulgarian National Observatory

Pirher et al, 1999. *Background study on labour market and employment in Slovenia.* ETF. Luxembourg: EUR-OP

PMU/OBS/IC003, 1998. *Survey on the training needs in the region of Stara Zagora.* Sofia: Foundation for Entrepreneurship Development

Polonyi I. et al., 1998. *Alternative approaches to financing lifelong learning. Country report.* Budapest: House of Professors, Coordination Office for Higher Education

PriceWaterhouseCoopers, 1998. *Human resource management. European key indicators*

PriceWaterhouseCoopers, 1999. *Key indicators for human resource management: Central and Eastern European Report 1999*

PriceWaterhouseCoopers, 1999. *Key indicators for human resource management in the Czech Republic 1999.* Global Human Resource Solutions

Pusvaskis R., 1998. *The White Paper: the strategic document for the development of an integrated system of VET in Lithuania.* Contribution to Phare conference Towards accession: the role of VET strategy in economic and social development. Vilnius: Phare

PW Partners Ltd, 1999. *Sectoral study in the Wood industry and furniture industry in Estonia.* Talin: EKI

Ramina B., 1999. *VET research in Latvia.* Riga: Latvian National Observatory

Rittau et al., 1998. *Monitoring rynku pracy Gliwic, Knurowa i Pyskowic z uwzglednieniem zawodow deficitowych i nadwyzkowych "Gliwice 1994-1997".* Gliwice: Miedzigminny Osrodek Doradstwa i Orientacij Zawodowej

Roberts K., 1998. School-to-work transitions in former communist countries. *Journal of Education and Work*, **11**(3), pp.221-238

Rutkowski J., 1998. *Welfare and the labour market in Poland. Social policy during economic transition.* World Bank technical papers No. 417. Washington, D.C.: The World Bank

Sellin B., Grollman P., 1999. The state of European vocational training research, its functions and problems. *European Journal of Vocational Training*, 17, pp. 69-75

Sirovatka, 1997. *Marginalizace na procovnim trhu* (Marginalisation on the labour market). Brno: Masarykova univerzita

SSRC, 1999. The social sciences in Central and Eastern Europe. *In:* Kazancigil A., Makinson D., eds., pp. 92-97

Study of graduates of VET schools in Estonia, 1998 (may be obtained from Estonian National Observatory on request)

Svetlik, ed., 1992. *Zaposlovanje: perspective, priloznosti, tveganja* (Employment: perspectives, opportunities and risks). Ljubljana: Zvanstveno in publicisticno sredisce

Svetlik, ed., 1996. *Kakovost zivljenja v Sloveniji* (Quality of life in Slovenia). Ljubljana: Fakulteta za druzbene vede, zbirka Teorija in praksa

Szalai J., 1999. Recent trends in poverty in Hungary. *In:* Atal Y. ed., *Poverty in transition and transition in poverty*, UNESCO publishing, Paris, New York – Oxford: Berghahn Books, pp.32-76

Sztanderska et al., 1999. Background study on labour market and employment in Poland. ETF. Luxembourg: EUR-OP

Sztompka P., 1999. Science and democracy. *In:* Kazancigil A., Makinson D., eds., pp.256-265

Šťastnová et al. 1998. *Absolventi na trhu práce: Co zaměstnavatelé očekávají?* (Graduates on the labour market: what do employers expect?) Praha: ÚIV, TAURIS

Tamm A., 1997. *Training of skilled workers and personnel management of companies, focus groups and in-depth interviews in Tallinn and Rakvere*, Tallinn: EMOR Ltd.

Tamm A., 1998a. *Using of skilled labour in enterprises:* Report. Tallinn: EMOR Ltd.

Tamm A., October 1998b. *Kutseõppeasutuste uuring [Survey on vocational schools]*. Tallinn: EMOR Ltd.

Tempus CME-97-3007, 1999. *Flexible learning strategy in Latvian higher education*. Riga: Ministry of Education and Science

Trapenciere et al., 1999. *Background study on labour market and employment in Latvia*. ETF. Luxembourg: EUR-OP

Trbanc M., 1999. VET against social exclusion: The general picture and some experiences from Slovenia. *In: Transition, reconstruction and stability in South-Eastern Europe: The role of VET*, ETF, pp. 35-38

Trzeciak W., Drogosz-Zablocka E., eds., 1999. *The model of integrated career guidance in Poland*. Warsaw: Task Force for Training and Human Resources, National Observatory

UNDP, 1997. *Human Development Report: Poverty from a human development perspective*. New York: Oxford University Press

UNDP, 1999. *Human Development Report: Globalisation with a human face*. New York: Oxford University Press

van Wieringen, Dekker, 1999. *Widening horizons. Scenarios and strategies for vocational education and training in Europe, draft report*. Max Goote Expert Centre, University of Amsterdam

Vecernik J., 1991. Uvod do studia chudoby v Ceskoslovensku (Introduction into study of poverty in Czechoslovakia). *Sociologicky casopis* 27, pp. 577-602

Večerník J., Matějů P. et al. 1999. *Ten years of rebuilding capitalism; Czech society after 1989*. Brno: Academia

Verša, D. et al., 1998. *Vocational Education and Training in the Context of Regional Development in Slovenia*. Ljubljana: National Employment Office, National VET Observatory Slovenia

Vojtěch J., 1998. *Uplatnění absolventu středního odborného vzdělávání ve sféře práce*. Praha: VÚOŠ

VÚPSV, 1999. *Úloha politiky zaměstnanosti a služeb zaměstnanosti ve státní vzdělávací politice, II. podrobna zpráva. (The role of employment policy and employment services in the state education policy, II. detailed report)*. Praha: VÚPSV

1352

Wallerstein I., 1999. Social science in the twenty-first century. *In:* Kazancigil A., Makinson D., eds., pp. 42-49

Weiss C.H., 1999. Research-policy linkages: how much influence does social science research have? *In:* Kazancigil A., Makinson D., eds., pp. 194-205

IBRD, the World Bank, 1998. *World development indicators Washington*, D.C.: The WB

Zecchini, 1997. Transition approaches in retrospect. In Zecchini ed., *Lessons from the economic transition: Central and Eastern Europe in the 1990s*. OECD. Dodrecht, Boston, London: Kluwer Academic Publishers

Žaludová et al., 1997. *Quality assessment and quality assurance of management training: Feasibility study*. Prague: National Training Fund

Bibliography

Albania

Albanian National Observatory, 1998. *VET report on Albania*

Baumgartl B., et al., 1998. *Report on Albania*. DIPF: International handbook of vocational education. In the process of publication

Bejtja P., et al., 1997. *A new system for vocational education teacher trainer training in Albania*. Not published

Bejtja P., et al., 1997. *A view on vocational education in Albania*

Lamoureux M., et al., 1999. *Restructuring alternatives for Albania's vocational technical education and training subsector*. World Bank

Vocational education department-Institute of pedagogical studies, 1999. *Reforming VET curriculum in Albania*. Tiran: Not published

Zagori E., 1998. *VET teachers trainers training in Albania*

Bulgaria

Белева И. и екип, 1999. *Преглед на политиката в сферата на заетостта [Survey of the Policy in the area of employment]*. DG XII

Бижков Г., Попов Н., 1994. *Сравнително образование [Comparative education]*. София: СУ Климент Охридски

Българска национална обсерватория за ПОО и за пазара на труда, 1999. Национален доклад за системата на ПОО в България [National report on the VET system in Bulgaria], под печат

Българска национална обсерватория, 1998. *Брошура 4 [Brochure 4]*. София

Българска национална обсерватория, 1998. *Брошура 6 [Brochure 6]*. София

Българска национална обсерватория, 1998. *Брошура 7 [Brochure 7]*. София

Българска национална обсерватория, 1998. *Брошура 8 [Brochure 8]*. София

Българска национална обсерватория, 1998. *Национален доклад за системата на ПОО в България [National report on the VET system in Bulgaria]*. София

Българска национална обсерватория, 1998., *Брошура 5 [Brochure 5]*. София

Българска национална обсерватория, декември 1997. *Брошура 1 [Brochure 1]*. София

Генев К. и колектив, 1992. *Организация и управление на образованието [Organisation and management of education]*. София: СУ Климент Охридски

Добрев П., Матев М., 1993. *Европа, ноосферата [Europe the noosphere]*. Славика, София

Крумов В., 1993. *Организационна структура и управленски модели в образователната система* [Organisation structure and management models in the educational system]. София: СУ Климент Охридски

МНП, 1992. *Бяла книга на българското образование и наука [White paper of the Bulgarian education and science]*. София

МОН, НСИ, 1992-1999. *Годишен бюлетин "Професионално образование [Bulletin vocational education]*

МОНТ, 1996. *Професионалното образование в България - състояние, проблеми, перспективи [The vocational education in Bulgaria – status, problems, perspectives]*. София

НИИО, 1990. *Средното образование в някои развити страни [The secondary education in some developed countries]*. София

НИИО, 1990. *Частното образование в някои развити страни [Private education in some developed countries]*. София

НИИО, 1991. *Алтернативни образователни структури в условията на пазарна икономика [Alternative educational structure in market economy]*. София

НИИО, 1991. *Териториални системи в средното образование [The regional systems in secondary education]*. София

СНЕЛА, 1994. *Социалната реформа. Институт по икономика към БАН [The social reform, institute of economics of BAC]*. София

УНСС, 1999. *Пазарни и непазарни дефекти в социално-културната сфера [Market and non-market defects in the social-cultural area]*. София, под печат

ФРП, 1997. *Състояние на малките и средни предприятия в България [The status of small and middle-sized enterprises]*. София: ФРП

ФРП, 1998. *Състояние на малките и средни предприятия в България [The status of small and middle-sized enterprises]*. София : ФРП

Цекова Е., 1998. *Въведение в икономиката на образованието [Introduction to the economics of education]*. Рашо, София

Черепов Л., 1993. *Професионалната квалификация - нормативна уредба и тенденции [The Vocational Qualification – Legal Arrangement and Trends]*. София

Czech Republic

Coufalik J., et al., 1998. *Proceedings of the seminar on the role of social partners in the development of qualification standards and in the financing of vocational education and training in the Czech Republic*. Prague: No, NVF

Coufalik J., Janyš B., 1998. *Program transformace odborného vzdělávání: další kroky transformace*. Praha: Fragment

Czesana V., et al., 2000. *The vocational education and training system in the Czech Republic. Recent changes, challenges and reform needs*. Prague: ETF

Freibergová Z., 1998. *Hodnocení kvality studijních programu*. Praha: Centrum pro studium vysokého školství ČR

Gradua, 1997. *Management training and development in the Czech construction and building sector: survey of needs, demand and supply*. Prague: Gradua

Institute for Information on Education, 1998. *Education in transition: annual report on the state and the development of the education system in the Czech Republic for the school year 1995-1996*. Prague: UIV

Institute for Information on Education, 1998. Education system of the Czech Republic. Praha: UIV

Institute for Information on Education, 1999. *Education in transition: annual report on the state and the development of the education system in the Czech Republic for the school year 1997-1998*. Prague: UIV

Jezberová R., 1998. Klíčové dovednosti v teorii a praxi odborného vzdělávání. 1. vyd. Praha: Fragment

Lisalová J., et al., 1998. *Srovnávací výzkum systému pedagogického vzdělávání vysokoškolských učitelu - inženýru v ČR a vybraných zemích EU: závěrečná zpráva řešení projektu RS 97 128*. Praha: Centrum pro studium vysokého školství ČR

Kofroňová O., Vojtěch J., 1996. *Kurikulární politika v ČR po r. 1989 a její odraz ve vývoji oboru přípravy ve středním odborném školství*. Resortní výzkum MŠMT. Praha: VÚOŠ

Koubek J., Brewster C., 1995. Human resource management in turbulent times: HRM in the Czech Republic. *The International Journal of HRM*. 6(2)

Lisalová J. et al., 1997. *Srovnávací výzkum systému pedagogického vzdělávání vysokoškolských učitelu – inženýru v ČR a vybraných zemích EU. Průběžná zpráva granta MŠMT*. ČR RS 97128

Lisalová J. et al., 1998. *Srovnávací výzkum systému pedagogického vzdělávání vysokoškolských učitelu – inženýru v ČR a vybraných zemích EU. Závěrečná zpráva grantu MŠMT*. ČR RS 97128

Mareš J., Lašek J., 1998. *Sociální klima školní třídy - přehledová studie: dotazník sociálního klimatu školní třídy*. Praha: Institut pedagogicko-psychologického poradenství

Mareš P., 1998. *Nezaměstnanost jako sociální problém. 2. doplň. vyd.*. Praha : Sociologické nakladatelství SLON

Matějů P., Kreidl M., 1998. *Rekonstrukce sociálního statusu.* Praha: Sociologický ústav AV ČR. Pracovní texty výzkumného projektu „Sociální trendy"; WPST 3/1998

Národní observatoř pro odborné vzdělávání a trh práce, 1998. *Další odborné vzdělávání v ČR.* Praha: NO, NVF

Průcha J., Míka J., 1998. *Glosář distančního vzdělávání (DIV).* Praha: Centrum pro studium vysokého školství

Slezáková L., 1998. *Pomoc mladistvým bez rodinného zázemí propuštěným z ústavních zařízení.* Praha: Výzkumný ústav práce a sociálních věcí

Straková E., 1998: *Pracovní průvodce distančním vzděláváním.* Praha: Centrum pro studium vysokého školství

Úlovcová H., Strádal J., 1998. *Analýza trhu práce ve vztahu k odbornému vzdělávání.* **1**. Praha: Výzkumný ústav odborného školství

Úlovcová H., Strádal J., 1995. *Trh vzdělávání a trh práce. Určující faktory odborného školství.* Praha: VÚOŠ

Ústav pro informace ve vzdělávání, 1998. *Další vzdělávání učitelu v EU a v zemích ESVO/EHP.* Praha: ÚIV

Ústav pro informace ve vzdělávání, 1998. *Ekonomika školství: výběrová rešerše.* Praha: ÚIV

Ústav pro informace ve vzdělávání, 1998. *MATURANT 98: analýza výsledku sondy MATURANT 98.* Praha :ÚIV

Viceník P., Švanda I., 1999. Factors which have an impact on the final assessment of education and vocational education: the example of the Czech Republic. *European Journal of Education,* **34** (2)

Večerník J., Matějů P., 1998. *Zpráva o vývoji české společnosti 1989 - 1998.* Praha: Academia

Vojtěch J., 1998. *Uplatnění absolventu středního odborného vzdělávání ve sféře práce : analýza na základě výběrového šetření pracovních sil ČSÚ.* **1**. Praha: Výzkumný ústav odborného školství

Vojtěch J., 1998. *Vývoj proporcí počtu žáků v systému vzdělávacích cest středního a vyššího vzdělávání 1989-1997.* **1**. Praha: Výzkumný ústav odborného školství

VÚOŠ. *Kurikulární rámec středoškolského odborného vzdělávání. (Základní kurikulum středoškolského odborného vzdělávání)*

Výzkumný ústav odborného školství, 1998. *Uplatnění nových prvků při aplikaci Standardu středoškolského odborného vzdělávání.* **1**. Praha: VÚOŠ

Výzkumný ústav odborného školství, 1998. *Uplatnění Standardu středoškolského odborného vzdělávání při tvorbě učebních dokumentu.* **1**. Praha: VÚOŠ

Výzkumný ústav práce a sociálních věcí, 1998. *Jaké byly, jsou a budou šance maturantu na další studium?.* Praha: VÚPSV

Výzkumný ústav práce a sociálních věcí, 1998. *Kolik nás stojí bezplatné vzdělávání?.* Praha: VÚPSV

Výzkumný ústav práce a sociálních věcí, 1998. *Sociálně ekonomické souvislosti integrace České republiky do Evropské unie v oblasti zaměstnanosti, pracovních a sociálních vztahu: shrnutí analýz.* Praha: VÚPSV

Zlámalová H., 1998. *Hodnocení institucí vzdělávajících distančně.* Praha: Centrum pro studium vysokého školství

Zlámalová H., 1998. *Koncepce dalšího vzdělávání učitelu s využitím distanční vzdělávací technologie : závěrečná zpráva výzkumného úkolu RS 98013. Interní tisk.* Praha: Centrum pro studium vysokého školství – NCDiV

Estonia

Annus T., et al., 1997. *National report on vocational education and training system – Estonia*

Corcoran T., December 1997. *Labour Market Information in Estonia – Recommendations for national measures to improve the information flow in the labour market, with particular reference to the identification of skill needs as a basis for the planning of vocational education and training.*

Eamets R., Rebane P., July 1999. *Background studies for the employment policy reviews*

Estonian Labour Force 1989 – 1999

Estonian Labour-Force Surveys, 1995, 1997, 1998 and 1999

Helemäe J., et al., 1997. *Adult Education and Training 1997*

Kilk K., et al., August 1998. *Work related education and continuing education possibilities in the Republic of Estonia*

Kivistik T., 1999. *The analyses of vacant jobs*

Kõverjald A., et al., 1996. *Kutsealase pidevhariduse arendamine vabariigis praegustes sotsiaalsetes ja majanduslikes tingimustes [Development of vocational continuing education in the actual social and economical conditions in the Estonian republic]*

Kutseõppeasutuste lõpetajate uuring [Study of graduates of the VET schools], 1998

Labour Force 1998

Link I., et al., November 1997. *The role of social partners in developing training in Estonia*

Loogma K., 1998. *Estonian education scenarios*

Loogma K., et al., 1999. *Scenarios and strategies for VET in Estonia and in Europe*

Mölder A., 1999. *Talu- ja Põllumajandusega seotud kutsehariduse olukorrast Eesti Kutseõppeasutustes [Agricultural vocational education and training situation in Estonian vocational education institutions]*. Ministry of Agriculture

Neudorf R., et al., *Tertiary/post-secondary professional vocational education in Estonia*

Ots L., December 1998. *Overview of teacher /trainer training in vocational education and training in Estonia*

Ots L., *The study on regulated professions*

Pavelson M., 1999. *Kutseharidus kui karjääri lähtepunkt [VET – Starting point for career building]*. Technical University

Piliste T., 1997. *Palk ja haridus Eesti tööturul [Wage and education in the Estonian labour market]*. The University of Tampere, Finland, Estonian Ministry of Education

PW Partners Ltd, 1999. *Sectoral study in the Wood industry and furniture industry in Estonia*. Talin: EKI

Rebane A., *Overview of the employment surveys undertaken in the Ministry of Economics*, Ministry of Economics

Saarniit J., 1997. *Eesti koolinoor 1997 [Estonian school age youth in 1997]*. Ministry of Education

Science 1997

Tallinna Pedagogical University, The Institute of International and Social Studies and Tartu University Sociology Department, 1997. *Adult Education Survey 1997, Methodological overview*

Tamm A., 1997. *Training of skilled workers and personnel management of companies, focus groups and in-depth interviews in Tallinn and Rakvere*, EMOR Ltd.

Tamm A., 1998. *Using of skilled labour in enterprises*. EMOR Ltd.

Tamm A., October 1998. *Kutseõppeasutuste uuring [Survey on vocational schools]*. EMOR Ltd.

Venesaar U., Viies M., *Haridus, koolitus ja tööturg üleminekumaades: Ungari ja Eesti kogemus [Education, training and the labour market in the pre-accession countries: Hungarian and Estonian experience]*. Tallinn: Technical University, Estonian Economical Institute

Hungary

Benedek, András, 1998. *Market economy and VET*. Budapest

CEEPUS Hungarian Agency, 1998. *CEEPUS handbook 1998*. Budapest

Central Statistical Office, 1997. *Labour market situation report 1997. Labour force survey*

Central Statistical Office, 1998. *Education, training 1988-1997*. Budapest: CSO

Central Statistical Office, 1998: *Hungarian statistical yearbook 1997*. Budapest: CSO

Gyarmatiné Rácz, et al., 1997. *The role of social partners in vocational training in Hungary*. Hungarian National Observatory, Budapest

Hungarian Foundation for Enterprise Promotion, 1998. *Current status of the SME sector in Hungary*, Research study. Budapest

Hungarian National Observatory, 1998. *Continuing vocational training. Research study*. Budapest

Hungarian National Observatory, 1998. *Survey of vocational teacher training (TTT)*. Budapest: HNO

Hungarian NCU, 1998. *Compendium 1997-1998. Pilot projects, Placement and exchange projects*. Budapest

1356

Jakab, János, 1998. *Financing in VET development.* Budapest

Jekkel, et al., 1997. *International partnerships in vocational training. Vocational Training Review.* Budapest

Köpeczi Bócz T., 1999. *Employment and labour market in Hungary.* ETF

Köpeczi Bócz T., 2000. *Mutual recognition of the qualifications in the EU.* Budapest

Laky, Teréz, 1997. *Labour market trends and consequences. Vocational training review*

Ministry of Education, 1998. *Vocational training and economy 1997.* Budapest

Ministry of Labour, 1997. *Vocational training of disadvantaged students. Research paper 1997.* Budapest

Sum, István - Tóth Anikó, 1998. *Financing in CVT.* Budapest

Szekely J., 1997. *Short-term labour market Projection for the first half of 1998.* Budapest: NLC

Szép, Zsófia, 1997. *Financing of vocational training.* Budapest: Phare Project

Szép, Zsófia, 1998. *Sources of financing vocational training in Hungary and internationally, Vocational Training Review.* Budapest

Szigyártó, Gyöngyi, 1998. *Statistics from CVT.* Budapest

Latvia

Academic information centre – Latvian National observatory, 1998. *Who seeks job in Latvia?.* Riga

Academic information centre – Latvian National observatory, 1998. *Analysis of the response of the VET system to the new economic objectives in Latvia.* Riga

Academic information centre – Latvian National observatory, 1998. *Teachers and trainers training in Latvia,* Riga

Academic information centre – Latvian National observatory, 1998. *Vocational education in Latvia*

Academic information centre – Latvian National observatory, 1998. *Continuing vocational education in Latvia*

Academic information centre – Latvian National observatory, 1999. *Human resources and vocational education in regions of Latvia*

Academic information centre – Latvian National observatory, 1999. *Tertiary Vocational Education,* ETF – Latvian National observatory workshop..., Riga

Cīce A. M., et al., 1997. *Prognosis on labour market development in relation with labour market of education system.* Riga: Institute of economics Latvian academy of sciences

Egle V., 1999. *Does Latvia need science?.* Mūsu Izglītība

Koroļeva I., et al., 1998. *Youth in Latvia: opinions, values and attitudes.* Institute of philosophy and sociology, University of Latvia

Markausa I. M., 1998. *The professional education of Young people and their prospects in the job market.* Riga: Institute of economics Latvian academy of sciences 1997/98 Yearbook

Nielsen S.P, 1998. *Cross country analysis of curriculum reforms in Phare countries. Case study:* Latvia, Copenhagen.

Lithuania

Dienys V., et al., 1998. *In-depth study in continuing vocational training.* Lithuania. Vilnius: Leidybos centras

Dienys V., Pusvaskis R., 1998. Change of vocational training during first step of the education reform. *Journal vocational education research and realities,* **1.** Kaunas: VDU

EU Phare 1998. *The white paper. Vocational education training (up till university level).* Vilnius: Leidybos centras

Institute of labour and social research, 1998. *Terms and concepts of labour market.* Vilnius: Agora

Jovaisa L., Show S., 1998. View on core skills training in central and Eastern Europe (the partner state. *Journal vocational educational research and realities,* **1.** Kaunas: VDU

Kisuniene G., 1998. Phare programme in Lithuanian VET reform –realities and perspectives. *Journal vocational educational: research and realities,* **1.** Kaunas: VDU

Lauzackas R., 1997. *The reform on vocational education curriculum features of didactics.* Kaunas: VDU

1357

Lauzackas R., 1998. *Systemoteorical dimensions of vocational education change. Dr habillitational dissertation.* Kaunas: VDU

Lauzackas R., Pukelis K., 1998. Change of Lithuanian vocational education and training system: theoretical dispositions and practical steps. *In:* Dalkalatchev H., van Buer J., Seeber S. eds. *Control of educational processes.* Sofia-Berlin: YHCC, Humboldt universitat

Levickas A., 1998. *Colleges to the new status. In vocational educational research and realities.* **2**, Kaunas: VDU

Lithuania NO, 1998. *Teacher trainer training (TTT) in Lithuania. Repor.* Vilnius: VDU

Lithuanian labour market training authority, 1998. *Vocational training of labour market. Efficient factor of co-ordination of workforce supply and demand.* Vilnius: Agora

UNDP, 1998. *Report on person social development in Lithuania.* Vilnius: UNPD

Poland

1997. ***Badania** porównawcze świadectw i dyplomów na **poziomie** podstawowym, zasadniczym i średnim **w krajach** Unii Europejskiej i w Polsce.* Raport końcowy. Program TERM. Ministerstwo Edukacji Narodowej. Warszawa: MEN

1998. ***Praca i polityka społeczna** w perspektywie XXI wieku.* Instytut Pracy i Spraw Socjalnych. Studia i Materiały. Warszawa. IPiSS

1998. ***Przejście między edukacją a rynkiem** pracy.* Centrum Badań Polityki Naukowej i Szkolnictwa Wyższego Uniwersytetu Warszawskiego. Warszawa: CBPNiSW

1998. *Raport Kadry.* Badanie TOP 500 Gazety Bankowej Kadry. Warszawa: Wydaw. POIG

Aleksander T., 1998. ***Funkcjonowanie pozaszkolnej edukacji zawodowej dorosłych.*** Edukacja Dorosłych (Toruń),

Aleksander T., Skrzypczak J., eds., 1998. ***Edukacja ustawiczna w zmieniającej się sytuacji edukacyjnej (wybrane problemy).*** Poznań: Eruditus

Banasiak B., Zawadzka G., 1998. ***Program "Absolwent '98": wyzwanie dla samodzielności.*** Polityka. Społeczna

Baraniak B., 1998. *Edukacja ustawiczna w Instytucie Badań Edukacyjnych.* Edukacja Dorosłych, Radom

Baraniak B., Butkiewicz M., eds., 1998. *Standaryzacja kształcenia zawodowego.* Instytut Badań Edukacyjnych. Warszawa. Wydaw. IBE

Bartkowiak G., 1997. *Orientacja nastawiona na rozwój i uczenie się osób zatrudnionych w organizacji.* Zeszyty Naukowe. Akademia Ekonomiczna w Poznaniu. I

Bartkowiak G., 1997. *Rozwój i uczenie się pracowników.* Humanizacja Pracy

Bednarczyk H., 1997. *Kształcenie dorosłych odpowiedzią na potrzeby rynku pracy.* Edukacja Dorosłych, Radom

Bednarczyk H., 1998. *Problemy i dylematy rozwoju ustawicznej edukacji zawodowej.* Polityka . Społeczna

Bednarczyk H., et al., 1997. *Systemy, jakość i standardy kształcenia zawodowego.* Radom: Instytut Technologii Eksploatacji, Warszawa: Edukacja i Praca. Radom: Wydaw. ITE

Białecki I., Sikorska J., eds., 1998. *Wykształcenie i rynek.* Warszawa: Wydaw. TEPIS

Bochniak M., 1997. *System zapewnienia jakości kształcenia a standardy kompetencji zawodowych.* Edukacja Dorosłych, Radom

Borkowska A., Kowalska A, et al., 1998. *Start zawodowy młodzieży - przygotowanie do wejścia na rynek pracy: program pilotażowy.* Rynek Pracy

Borkowska S., ed., 1999. *Edukacja zawodowa a rynek pracy.* Instytut Pracy i Spraw Socjalnych. Raport 17.- Warszawa : Ag. Wydaw.-Rekl. H.Woźniak

Czajka Z., 1997. *Rynek pracy a system edukacji.* Praca i Zabezpieczenie Społeczne

Czaplo B., 1999. *Konkurencyjność małych i średnich przedsiębiorstw a zmiany poziomu zatrudnienia w woj.* białostockim : wyniki badań ankietowych - 1998. Rynek Pracy

Czerniawska O., 1998. *Badania biograficzne i ich rola w kształceniu andragogicznym.* Radom: Edukacja Dorosłych

Czesla A., 1997. *Wspieranie rozwoju małych przedsiębiorstw w olsztyńskiem.* Rynek Pracy

1358

Czesla A., 1998. *Oczekiwane i pożądane kwalifikacje pracowników: badania w woj. olsztyńskim.* Polityka Społeczna

Czyszkiewicz R., 1998. *Bezrobocie wiejskie w Polsce lat dziewięćdziesiątych.* -Cz. 1-2. Rynek Pracy.

Denek K., 1998. *Próby dostosowywania edukacji zawodowej do potrzeb rynku pracy.* Szkoła Zawodowa

Dolny E., Meller J. et al., 1998. *Popyt i pracodawcy na rynku pracy w Polsce.* Uniwersytet Mikołaja Kopernika. Toruń: Wydaw. UMK

Drogosz-Zabłocka E., 1998. *Partnerstwo szkoła - zakład pracy.* Szkoła Zawodowa

Drogosz-Zabłocka E., 1998. *Problemy kształcenia i rynku pracy.* Szkoła Zawodowa

Drogosz-Zabłocka E., 1998. *Szkoła i zakład pracy: współpraca, ale jaka?* Polityka Społeczna

Drogosz-Zabłocka E., ed., współ. Białecki I., 1999. *Raport o problemach wdrażania reformy szkolnictwa na przykładzie wybranych gmin i powiatów.* Raport dla Banku Światowego i UNDP. Warszawa

Dyczewski L., 1998. *Bezrobocie długookresowe w woj. lubelskim: wyniki badań empirycznych.* Polityka Społeczna

Falacińska B. Kaczyńska M., 1998. *Olsztyński program aktywizacji zawodowej osób długotrwale bezrobotnych. Edukacja Dorosłych.* Radom

Galor Z., 1999. *Zmiany stosunków własnościowych w Polsce a zjawisko bezrobocia na tle krajów Europy Wschodniej.* Akademia Rolnicza. Katedra Nauk Społecznych. Poznań: AR

Garbicz M., 1999. *Mechanizmy postępu technicznego a bezrobocie. Szkoła Główna Handlowa.* Monografie i Opracowania 449. Warszawa: Of. Wydaw. SGH

Gerlach R., 1997. *Nauczyciel w pozaszkolnych formach oświaty zawodowej w Polsce.* Wyższa Szkoła Pedagogiczna w Bydgoszczy. Bydgoszcz: Wydaw. Uczelniane WSP

Grudzewski W. M., Hejduk I., 1998. *Małe i średnie przedsiębiorstwa w gospodarce rynkowej w Polsce.* Warszawa: Wyż. Szk. Handlu i Prawa M. in. rola małych i średnich przedsiębiorstw w likwidacji bezrobocia.

Halamska M., 1999. *Marginalizacja.* Nowe Życie Gospod

Jabłonowska L., 1997. *Aktualnie preferowane kierunki i treści kursowego kształcenia dorosłych.* Toruń: Edukacja, Dorosłych

Jeruszka U. T., 1998. *Bezrobocie absolwentów - trudny problem.* Szkoła Zawodowa

Jeruszka U., 1998. *Ewolucja programów przedmiotów zawodowych.* Instytut Badań Edukacyjnych. Warszawa: Wydaw. IBE

Juhre P., 1998. *Nowe linie kredytowe dla terenów wiejskich.* Rynek Pracy

Kabaj M., 1997. *Edukacja a rynek pracy - nowe metody koordynacji: wyniki pilotażu.* Polityka Społeczna

Kabaj M., 1997. *Monitoring zawodów deficytowych i nadwyżkowych (MZDiN) oraz trójstronne umowy szkoleniowe (TUS).* Służba Pracownicza1

Kabaj M., 1997. *Strategie i programy przeciwdziałania bezrobociu : studium porównawcze.* Fundacja Promocji Prawa Europejskiego. Warszawa: Scholar

Kabaj M., 1998. *Projekt systemu integracji edukacji zawodowej i rynku pracy : w kierunku kształcenia dualnego.* Polityka Społeczna

Kaczor S., 1997. *Przyszłość kształcenia zawodowego a badania naukowe: z okazji 25 rocznicy powstania Instytutu Kształcenia Zawodowego.* Pedagogika Pracy.

Kargul J., 1998. *Edukacja a rynek pracy - relacja czy jej zaprzeczenie.* Edukacja Dorosłych, Radom

Kocot-Górecka K., 1997. *Zmiany aktywności zawodowej ludności w Polsce w okresie transformacji gospodarczej w latach 1989-1996.* Roczniki Kolegium Analiz Ekonomicznych

Kołaczek B., 1997. *Aspiracje edukacyjne a możliwości ich realizacji w świetle badań.* Polityka Społeczna

Koncerewicz B., 1998. *Inkubatory przedsiębiorczości w północno-wschodniej Polsce.* Ekonomika i Organizacja Przedsiębiorstwa

Koptas G., 1997. *Bezrobocie absolwentów: skala zjawiska i metody ograniczania.* Szkoła Zawodowa

1359

Koptas G., 1999. *Po szkole na rynek pracy: porównania międzynarodowe.* Szkoła Zawodowa

Korczyk E., Łyżwińska M., et al., 1997. *Firma symulacyjna - nowoczesna technika dydaktyczna w szkoleniu bezrobotnych: na przykładzie województwa katowickiego.* Pedagogika Pracy

Kowalak T., 1998. *Globalizacja gospodarki światowej a zjawisko marginalizacji społecznej.* Polityka Społeczna

Kowalska A., ed., 1998. *Losy zawodowe absolwentów w latach 1994-1997: raport z badania modułowego przeprowadzonego w listopadzie 1997 r w ramach badania aktywności ekonomicznej ludności.* Główny Urząd Statystyczny. Departament Pracy. Warszawa: GUS

Kruszwicki W., Symela K., ed. 1999. *Poprawa jakości pracy szkoły.* Program SMART. Ministerstwo Edukacji Narodowej. Warszawa: MEN

Kryńska E., 1997. *Instrumenty polityki strukturalnej na rynku pracy w Polsce w okresie dostosowań do Unii Europejskiej.* Instytut Pracy i Spraw Socjalnych. Ekspertyzy – Informacje 3. Warszawa : IPiSS

Kryńska E., 1998. *Czekając na Unię: integracja z Unią Europejską a popyt na pracę w Polsce.* Personel

Kryńska E., 1998. *Polski rynek pracy w okresie dostosowań do Unii Europejskiej.* Rynek Pracy

Kryńska E., 1999. *Rynek pracy województwa łódzkiego - nowe granice, nowe problemy.* Rynek Pracy

Kryńska E., Kwiatkowski E., et al., 1998. *Polityka państwa na rynku pracy w Polsce w latach dziewięćdziesiątych. Instytut Pracy i Spraw Socjalnych.* Raport 12. Warszawa : IPiSS

Kryńska E., Suchecka J., Suchecki B., 1998. *Prognoza podaży i popytu na pracę w Polsce do roku 2010.* Instytut Pracy i Spraw Socjalnych. Warszawa: IPiSS

Kwaśniewski J., 1997. *Kontrola społeczna procesów marginalizacji.* Uniwersytet Warszawski. Instytut Profilaktyki Społecznej i Resocjalizacji. Warszawa: Interart

Kwiatkowski E., 1997. *Niektóre metodologiczne aspekty analiz rynku pracy.* Rynek Pracy

Kwiatkowski E., 1997. *Podejście strumieniowe w badaniach rynku pracy.* Rynek Pracy

Kwiatkowski E., 1999. *Zapotrzebowanie na wiedzę i umiejętności pracowników w regionie łódzkim.* Rynek Pracy..

Kwiatkowski S. M., 1997. *Kształcenie zawodowe jako przedmiot badań.* Pedagogika Pracy

Kwiatkowski S., Symela K., 1999. *Analiza i ocena zbieżności i rozbieżności programów szkoły policealnej na podbudowie liceum technicznego z podstawami programowymi kształcenia w zawodzie.* Materiał metodyczny dla recenzentów. Instytut Badań Edukacyjnych. Warszawa: IBE

Lelińska K., Sołtysińska G., 1999. *Kształcenie zawodowe a zawody na rynku pracy.* Centrum Metodyczne Pomocy Psychologiczno-Pedagogicznej Ministerstwa Edukacji Narodowej. Warszawa: CMPP-P. MEN

Makselon-Kowalska B., 1998. *Psychologiczne aspekty bezrobocia młodzieży.* Polityka Społeczna

Męcina J., 1998. *Opinie pracodawców na temat funkcjonowania staży dla absolwentów w świetle badań przeprowadzonych wśród pracodawców na początku 1997 roku na terenie woj. płockiego.* Rynek Pracy

Męcina J., 1998. *Staż u pracodawcy jako nowa forma przeciwdziałania bezrobociu absolwentów.* Polityka Społeczna

Minkiewicz B., Osterczuk A., eds., 1999. *Zmiany w kształceniu w zakresie zarządzania i biznesu w II połowie lat 90.* Biuro Koordynacji Kształcenia Kadr. Warszawa: BKKK

Miś L., 1998. *Czy istnieje zagrożenie trwałą marginalizacją? : kilka uwag na temat pojęcia "podklasy" (underclass).* Praca Socjalna

Młonek K., 1999. *Bezrobocie w Polsce w XX wieku w świetle badań.* Krajowy Urząd Pracy. Warszawa: KUP

Nawrocki B., 1999. *Certyfikacja systemów zarządzania jakością w zakładach doskonalenia zawodowego-moda czy konieczność?* Edukacja Ustawiczna Dorosłych

Nerlich A., 1999. *Współpraca szkół i zakładów pracy.* Szkoła Zawodowa

Niećko I., 1997. Bezrobotna młodzież na rynku pracy w rejonie Krasnystaw Rynek Pracy

1369

Niewiada A., 1997. *Problemy kształtowania relacji: szkolnictwo zawodowe - absolwenci - pracodawcy (na przykładzie Zespołu Szkół Ekonomicznych nr 1 w Szczecinie).* Szkoła Zawodowa

Nowak-Lewandowska R., 1997. *Społeczno-psychologiczne i etniczno-moralne skutki bezrobocia młodzieży.* Zeszyty Naukowe. Prace Katedry Mikroekonomiki. Uniwersytet Szczeciński

Nowińska G., 1997. *Absolwent na stażu.* Formy aktywizacji zawodowej. Personel

Obrębski T., 1998. *Postęp techniczny a rynek pracy.* Zeszyty Naukowe. Akademia Ekonomiczna w Poznaniu. **1**

Oleksyn T., 1997. *Dynamiczny rozwój zawodowy.* Personel. **11**. dod. Doradca Personalny. Rynek Szkoleń

Opolski K., Szemborska E., 1997. *Doskonalenie zawodowe - inicjatywa pracownika czy przedsiębiorstwa?* Personel. **12**. dod. Doradca Personalny. Rynek Szkoleń

Orczyk J., 1997. *Szkolenie jako instrument kierowania rozwojem pracowniczym w organizacji.* Zeszyty Naukowe. Akademia Ekonomiczna w Poznaniu. **1**

Orczyk J., 1998. *Dylematy zatrudnienia i ich implikacje.* Zeszyty Naukowe. Akademia Ekonomiczna w Poznaniu. **1**

Padowicz W., 1998. *Małe i średnie przedsiębiorstwa, jako istotny czynnik rozwoju społeczno-gospodarczego.* **1-2**. Służba Pracownicza

Padowicz W., 1999. *Warunki działania i rozwoju małych i średnich przedsiębiorstw - w kontekście potrzeb pracodawców.* Pracodawca i Pracownik

Paluch S., 1998. *Edukacja a rynek pracy.* Rynek Pracy

Pilch E., Thurow R., 1997. *Bezrobotni absolwenci - raport z badań.* Rynek Pracy

Pilch P., Staśkiewicz T., 1998. *Raport Rekrutacja.* Badanie TOP 500 Gazety Bankowej Kadry. Warszawa: Wydaw. POIG

Piotrowski M., 1998. *Projekty programu Leonardo Da Vinci.* Pedagogika Pracy

Polańska A., 1998. *Szanse dla badań nad pełnym zatrudnieniem.* Zeszyty Naukowe. Akademia Ekonomiczna w Poznaniu. **1**

Poloczek B., 1998. *Analiza oraz ocena stanu i struktury zatrudnionych w przedsiębiorstwie w aspekcie zmian organizacyjnych w okresie transformacji.* Zeszyty Naukowe. Akademia Ekonomiczna im. Karola Adamieckiego w Katowicach

Puzio-Wacławik B., 1998. *Problem bezrobocia młodzieży na tle zjawiska bezrobocia w Polsce w okresie transformacji systemowej.* Zeszyty Naukowe. Akademia Ekonomiczna w Krakowie

Ręka F., 1998. Inkubatory przedsiębiorczości jako element otoczenia przedsiębiorstwa. Zeszyty Naukowe. Akademia Ekonomiczna im. Karola Adamieckiego w Katowicach

Religa J., 1999. *Narzędzia i metody zapewnienia jakości w kształtowaniu kwalifikacji zawodowych we współpracy instytucji szkoleniowych z przedsiębiorstwami - program Leonardo Da Vinci.* Edukacja Ustawiczna Dorosłych. Radom

Roszewska D., Przybył M., 1998. *Indywidualne plany działania absolwentów: doświadczenia Rejonowego Urzędu Pracy w Łowiczu.* Rynek Pracy

Sadowska-Kowalska E., 1997. *Kształcenie zawodowe w procesie transformacji gospodarczej: na przykładzie województwa łódzkiego.* Acta Universitatis Lodziensis. Folia Oeconomica

Sanecki G., 1998. *Bezrobotna młodzież wobec dalszej edukacji.* Eduk. Doros. (Radom)

Sobczyk G., 1999. *Małe firmy na rynku pracy w Polsce.* Polityka Społeczna

Sobocka-Szczapa H., 1999. *Młodzież na rynku pracy.* Ocena procesu kształcenia oraz umiejętności nabytych w trakcie nauki w szkołach średnich i wyższych. Rynek Pracy

Suchy S., 1997. *Kształcenie zawodowe a bezrobocie wśród młodzieży.* Szkoła Zawodowa

Suchy S., 1997. *Szkolenie bezrobotnych i pracowników zagrożonych utratą pracy.* Służba Pracownicza

Suchy S., 1997. *Szkolenie bezrobotnych ważnym czynnikiem rozwoju i demokratyzacji oświaty dorosłych.* Edukacja Dorosłych. Radom

Symela K., ed., 1998. *Wdrażanie i ewaluacja treści kształcenia zawodowego.* Instytut Badań Edukacyjnych. Warszawa: Wydaw. IBE

Szałkowski A., et al., 1998. *Rozwój potencjału kwalifikacyjnego pracowników.* Akademia Ekonomiczna. Katedra Zarządzania Zasobami Pracy. Kraków: AE

Szylko-Skoczny M., ed., 1998. *Sytuacja młodzieży na rynku pracy w wybranych krajach Europy Środkowej i Wschodniej: raport z badań dla Międzynarodowej Organizacji Pracy.* Instytut Badań Społecznych Uniwersytetu Warszawskiego. Warszawa: UW

Szylko-Skoczny M., 1998. *Bezrobocie jako kwestia społeczna: współczesne problemy i tendencje.* Polityka Społeczna

Tomaszewski T., 1997. *Szkolnictwo zawodowe wobec potrzeb gospodarki rynkowej.* Szkoła Zawodowa

Trzeciak W., 1997. *Firmy symulacyjne jako droga zdobywania nowych kwalifikacji.* Edukacja Dorosłych, Radom

Trzeciak W., 1997. *Wybrane problemy bezrobocia młodzieży wiejskiej.* Edukacja Dorosłych (Radom).

Tyc J., 1999. *Działania urzędów pracy w zakresie dostosowania kwalifikacji bezrobotnych do potrzeb rynku pracy.* Rynek Pracy

Węgrzyn G., 1997. *Struktura wykształcenia a bezrobocie.* Prace Naukowe Akademii Ekonomicznej im. Oskara Langego we Wrocławiu

Winch A., Winch S., 1998. *Raport Szkolenia.* Badanie TOP 500 Gazety Bankowej Kadry. Warszawa: Wydaw. POIG

Witkowski J., 1998. *Badanie popytu na pracę - najnowsze doświadczenia polskie.* Wiadomości Statystyczne

Wójcicka M., ed., 1997. *Zapewnianie jakości kształcenia.* Instytut Spraw Publicznych. Warszawa: Wydaw: ISP

Wolter E., 1997. *Kształcenie i doskonalenie nauczycieli w Drugiej Rzeczypospolitej.* Poznań: Wydaw. Eruditus

Zawadzki Z., 1997. *Bezrobocie wśród młodzieży.* Edukacja Dorosłych (Radom)

Zawłocki I., 1997. *Podstawy i metodologia optymalizacji kształcenia zawodowego. Politechnika Częstochowska.* Międzywydziałowe Studium Kształcenia Nauczycieli Przedmiotów Technicznych. Częstochowa: Polit. Częst.

Zawłocki I., 1997. *Wyzwania stawiane edukacji zawodowej.* Szkoła Zawodowa

Ziomek A., 1998. *Edukacja a perspektywy rynku pracy absolwentów w regionie Górnego Śląska.* Górnośląska Wyższa Szkoła Handlowa. Katowice: GWSzH

Romania

Birzea C., Argaseala M. et al., 1998. *Continuing vocational education in Romania.* National Romanian Observatory, Bucharest

Birzea C., Bocsan N. et al., 1998. *Dezvoltarea educatiei permanente in Romania* [*Development of permanent education in Romania*]. Bucharest: Ed. Alternative

Birzea C., Balica M. et al., 1999. *Impact of the Leonardo da Vinci Programme on vocational training in Romania 1997-1998.* Bucharest: National center of the vocational training programme, Leonardo da Vinci, Romania

Birzea C., Gheorghe C. et al., 1998. *National report.* Bucharest: National Romanian Observatory

Birzea C., Jigau M. et al., 1998. *The professional integration of vocational and secondary school graduates.* Bucharest: National Romanian Observatory

Birzea C., Pert S. et al., 1998. *Vocational training for the unemployment in Romania.* Bucharest: National Romanian Observatory

Bobeva D. et al., 1997. *Brain drain from Central and Eastern Europe – European cooperation in the field of scientific and technical research.* Bucharest: Ed. COST

Boboc I., Pert S., 1997. *Cercetarea pietei muncii. Ghid practic* [*Labour market analysis. A practical guide*]. Bucharest: Ed. Expert

Boboc I., 1997. *Studiul pietei fortei de munca. Relatia dintre cerintele pietei muncii şi oferta educationala prin programul Phare VET - raport final* [*Study on labour market. Linking the labour market demands and the educational offer by Phare VET Programme - final report*]. **1,2**. Bucharest: Ministry of National Education, PMU-VET RO 9405

1362

Bruni M., Tarusello P., 1998. *Study on labour market and related implications on the man power provision by the vocational education and training (VET) system within the framework of Phare Projet RO.* Ministry of National Education, PMU-VET RO 9405. Bucharest: CAN Veneto Euro-In Consulting

Centre of studies and research on youth issues, 1998. *Starea tineretului* [*Current state of young's in Romania*]. Bucharest

Ciutacu C., 1994. *Politici de stimulare a crearii de noi locuri de munca.* [*Incentive policies for the creation of new workplaces*]. Bucharest: C.I.D.E.

Chivu L., 1997. *Institutiile pietei muncii. Probleme economice [Labour market institutions. Economic issues*], **35-36**

Costin A. E., Pitariu H., 1997. *Centrul de informare şi documentare pentru piata muncii. Manual de infiintare şi operare.* [*Center for professional and academic guidance. Initiating and operating handbook*]. Bucharest: Ed. Expert

Costin A. E., Pitariu H., 1997. *Centrul de orientare şcolara şi profesionala. Manual de infiintare şi operare.* [*Center for labour market guidance. Initiating and operating handbook*]. Bucharest: Ed. Expert

Department of Central Administration Reform - Romanian Government, 1999. *Strategia nationala pentru dezvoltare durabila* [*National strategy for sustainable development*]. Bucharest: Ed. NOVA

Ionete C., Chirca C. et al., 1998. *National Human Development Report.* Romanian Academy, Bucharest: Ed. Expert

Jigau M., Chivu L. et al., 1998. *Vocational training and labour market in Romania.* Bucharest: National Romanian Observatory

Jigau M., Rogojinaru A. et al., 1998. *Teacher trainer training in vocational education and training.* Bucharest: National Romanian Observatory

Marga A., 1998. *The reform of education in 1999.* Socrates. Ministry of National Education: Editura Alternative

Marginean I., 1996. *Tineretul deceniului I. Provocarile anilor 90* [*The youngs in the first decay. The challanges of the '90*]. Bucharest: Ed. Expert

Ministry of National Education, 1998. *Parteneriatul social in formarea profesionala* [*Social partnership in training*]. Bucharest: National Centre of Vocational Training

Ministry of National Education, 1998. *Curriculum in invatamantul profesional şi tehnic.* [*The curriculum in the vocational and technical education*]. Bucharest: National Centre of Vocational Training

Pavelescu F. M., 1998. Dezvoltarea regionala şi utilizarea fortei de munca. *Probleme economice* [Regional development and the use of the labour force. *Economical Issues*], **46**, pp. 5-58.

Pert S., 1997. Dimensiunea europeana a formarii profesionale. *Raporturi de munca* [The European dimension of training. *Labour relations*], **10**

Pert S., 1997. Formarea profesionala a fortei de munca – Programul "Leonardo da Vinci". *Raporturi de munca* [The labour force training – "Leonardo da Vinci" programme. *Labour relations*], **10**

Pert S., 1998. *National Study: Romania. Review of Sources and Systems of Information on Vocational Qualifications in Slovenia and Romania.* Final Report. Bucharest: Contract ADD 0029 ETF

Pert S., 1997. Strategia ocuparii fortei de munca şi combaterea şomajului: realism, eficienta, credibilitate. *Probleme economice* [The strategy of the labour force insertion and reducing the unemployment: realism, efficiency, accountancy. *Economical Issues*], **2**

Pert S., 1997. Formarea profesionala a fortei de munca. Continut. Mutatii şi exigente din perspectiva noii constructii europene. *Probleme economice* [The training of the labour force. Curriculum, changes and requirements from the new european perspective. *Economical Issues*], **39-40-41**

Pert S., 1997. Sistemul de formare profesionala sub semnul innoirii. Evolutii recente, exigente viitoare. *Revista romana de economie* [The training sistem in a new age. Recent developments, future requirements. *Romanian Economic Review*], **1-2**

Pert S., Ciutacu, C. et al., 1997. *Evaluarea capitalului uman. Coordonate sociologice ale pietei muncii in Romania* [*Human Capital Evaluation. A sociological approach of the Romanian labour market*]. Bucharest: IRLI

1363

Pert S., Goga, A. et al., 1996. *Agentia Nationala de Ocupare şi Formare Profesionala - institutie publica, tripartita de gestiune a capitalului uman* [*The National Agency of training and employment-public institution of human capital management*]. Bucharest: Ed. Tehnica

Preda D., 1998. Procese, decalaje şi tendinte privind ocuparea fortei de munca. *Probleme economice* [Processes, gaps and trends in employment. *Economical Issues*], **2**

Prisacaru C., 1998. A view on today's unemployment aspects in Romania. *The quality of life. A social policy review*, **1-2**

Rogojinaru A., Serban M. et al., 1998. *Reforma invatamantului profesional şi tehnic din Romania – politici şi strategii* [*Reforming the vocational education in Romania-policies and strategies*]. Ministry of National Education, PMU-VET RO 9405. Bucharest: OSCAR PRINT

Romanian National Comission for UNESCO, Ministry of National Education, 1998. *Conversia profesionala a fortei de munca in tarile cu economie in tranzitie* [*The professional conversion of the labour force in the counries with an economy in transition*]. Bucharest

Serban M., Radulescu E. et al., 1997. *The role of the social partners in the development of training in Romania* [*The role of the social partners in the development of training in Romania*]. Bucharest: National Romanian Observatory

Stanciu M., 1998. World trends on labour market: prezent employment patterns. *The quality of life. A social policy review*, **1-2**

Stoica A., 1997. *Evaluarea programului de reforma Phare VET - primul raport* [*Evaluating the Phare VET reforming programme - first report*]. Bucharest: Ministry of National Education, PMU-VET RO 9405

Stoica A, 1997. *Evaluarea programului de reforma Phare VET - al doilea raport* [*Evaluating the Phare VET reforming programme - second report*]. Bucharest: Ministry of National Education, PMU-VET RO 9405

UE PHARE, Ministry of Labour and Welfare, 1996. *Guide methodologique de la formation professionnelle* [*Methodological guide of training*]. Bucharest: Ed. Tehnica

Vasile V., 1998. Costul fortei de munca din perspectiva pregatirii pentru aderarea la UE. Evolutii, Decalaje. *Probleme economice* [The cost of labour force from the EU Integration. Evolutions.Gaps. *Economical Issues*], **40**

Zamfir, C., 1999. *Pentru o societate centrata pe copil* [*Toward a Child Centered Society*]. Bucharest: Ed. Alternative.

Slovakia

Arvayová R., 1993. *Analysis of the status of families with handicapped member of the family*. Bratislava: VÚPSVR

Cziria L., Srnánková L., 1998. *Institutionalisation of the human resource development in the Slovak Republic*. Bratislava: VÚPSVR

Filipová J., 1997. *Analysis of opinions of retired persons households on their socio-economical situation*. Bratislava: VÚPSVR

Grajcár Š., 1997. *List of vocations*. Bratislava: VÚPSVR

Grajcár Š., et al., 1997. *International comparison of approaches to construction of National vocations classification, methodological approaches from the aspect of construction and internal division of vocations and professions classification*. Bratislava: VÚPSVR

Grajcár Š., Lepeňová D., 1997. *Building the career information system. Analysis of vocation, vocational standards. Vocational information resource centre*. Bucuresti: Institul de Stiinte Ale Educatiei

Grajcár Š., Lepeňová D., 1997. *Methodological problems of the classifications of occupations branches in changed social and economic conditions. Qualificational and educational profiles*. Ljubljana: Birografika Bori 1997

Grajcár Š., Skovajsa P., 1999. *Report on the vocational education and training system in the Slovak Republic*. Bratislava: SNO

Hanker J., 1997. *Analysis of benefits of small to medium size undertaking on employment in selected region of Slovakia*. Bratislava: VÚPSVR

Jakubová G., Matúšová S., 1998. *Survey of teacher training (TTT) in vocational education and training*. Bratislava: SNO

Kominková E., Bauerová K., 1994. *Theoretical and methodological determination of approaches to the analysis of labour market.* Bratislava: VÚPSVR

Kopecká K., et al., 1998. *Socio-economic conditions of life of selected strata of strata of the population in the Slovak Republic.* Bratislava: VÚPSVR

Kostolanský R., et al., 1995. *A summary of existing classifications of jobs occupations and professions.* Bratislava: VÚPSVR

Kostolná Z., 1995. *Asylum seekers and migrants – a new phenomenon in the labour market.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1994. *Systemic aspects of the long-term unemployment and the tools of its prevention.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1994. *Theoretical and methodological basis for long-term unemployment exploring.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1996. *Effectiveness and optimalization of the labour market active policy tools on relation to objectives groups.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1996. *Marginalization on the labour market and possibilities of its prevention.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1997. *Current development tendencies in employing women.* Bratislava: VÚPSVR

Kostolná Z., Hanzelová E., 1998. *The developing trends of unemployment of Slovak Republic.* Bratislava: VÚPSVR

Lenczová M., 1998. *Opportunities and barrier of the integration of Roma population in the Slovak Republic.* Bratislava: VÚPSVR

Lepeňová D., 1997. *Vocational standards, analysis of vocations in the context of building the career information system. In: Management and qualification.* Bratislava, City University.

Lepeňová D., et al., 1997. *Methodology of vocations classification.* Bratislava: VÚPSVR

Lepeňová J., 1996. *Unitary method for job standards processing, the possibilities of further elaboration, sorting of information about jobs for needs of employment services including advisory service.* Bratislava: VÚPSVR

Líška M., et al., 1994. *An analysis of a state end presumed trends in the potential unemployment development in the selected regions of Slovakia.* Bratislava: VÚPSVR

Líška M., et al., 1996. *Principles for evaluating effectiveness of labour market active policy tools operating on the regional level.* Bratislava: VÚPSVR

Lubyová M., et al., 1999. *Background study on labour market and employment in the Slovak Republic.* Bratislava

Pavlíková E., Kondášová A., 1998. *Analysis of needs of elderly people with regard to provision of social service.* Bratislava: VÚPSVR

Phare VET reform in the Slovak Republic, 1998. *The final report. From the realisation of the Phare programme - 'Reform of VET in SR'.* Bratislava

Srnánková E., Czíria E., 1997. *Human resources development – basic conceptual and theoretical foundations.* Bratislava: VÚPSVR

Srnánková E., Czíria E., 1997. *Actual questions of human resources development at the current stage of social sphere transformation.* Bratislava: VÚPSVR

Srnánková E., et al., 1998. *The subjects and the tools of the human resource development in the Slovak Republic.* Bratislava: VÚPSVR

Srnánková L., 1999. Aktuální otázky rozvoja ľudských zdrojov v podnikovej sfére. Výsledky prieskumu. *Personalistika, mzda, práca,* 4

Srnánková L., 1999. Vybrané aspekty postavenia a fungovania inštitúcií posobiacich v oblasti ďalšieho odborného vzdelávania na trhu práce. Výsledky prieskumu. *Personalistika, mzda, práca,* 5

Škodáčková J., 1997. *Vocational Standards.* Bratislava: VÚPSVR

Valná S., 1997. *Review of opinions of household with studying youth on their socio-economical situation.* Bratislava: VÚPSVR

Valná S., 1999. *Status of elderly people in the society.* Bratislava: VÚPSVR

Valná S., et al., 1994. *Conceptional and methodological approach to defining, determining and measuring the poverty.* Bratislava: VÚPSVR

Valná S., et al., 1994. *Living conditions of the economically active population with special regards to the low income families.* Bratislava: VÚPSVR

Valná S., et al., 1995. *Sociological exploring populations attitudes to the living standard structure.* Bratislava: VÚPSVR

Valná S., et al., 1996. *Sociological survey of attitudes in the SR households towards the expenditure items involved in subsistence minimum.* Bratislava: VÚPSVR

Vantuch J., 1999. *Vocational education and training system in the Slovak Republic.* Bratislava: SNO

Vantuch J., Brendzová D., 1999. *Place of tertiary professional and vocational education in the higher education system in the Slovak Republic.* Proceedings of the seminar: Prague

Vantuch J., Brendzová D., 1999. *Tertiary education in the Slovak Republic as an educational policy agenda.* Proceedings of the seminar: Riga

Zahradníková E., et al., 1998. *In-depth study on continuing training.* Bratislava: SNO

Slovenia

Arh J., 1998. *Towards a Europe of knowledge. From partnership to an integrated education policy.* Phare. Ljubljana: CPI

CPI, 1998. *Permanent Professional Development of Educators and Teachers.* Ljubljana

Debeljak M., 1998. *Teacher trainer training (TTT) in Vocational Education and Training.* Ljubljana: National VET Observatory Slovenia

Debeljak M., 1998. *Teacher Trainer Training (TTT) in Vocational Education and Training.* Ljubljana: National VET Observatory Slovenia

Ecuj J., Debeljak M., eds.,1998. *From teaching towards learning.* Phare. Ljubljana: CPI

Erčulj J., et al., 1998. *From Teaching towards Learning.* Ljubljana: CPI

Geržina S., Polak M., 1999. *Report on Developments in Vocational Education and Training in Slovenia, 1998.* Ljubljana: National VET Observatory Slovenia

Grootings P. et al., 1998. *Assessments of the Phare vocational education and training reform programme in Slovenia.* Phare. Ljubljana: CPI

Grootings P., 1998. *VET Reform in Slovenia: From restoration to preparing for the future. In CPI, assessments of the Phare vocational education and training reform Programme in Slovenia.* Centre of the Republic of Slovenia for vocational education and training within the Phare programme for the vocational education and training reform in Slovenia. Ljubljana

Ivančič A., 1998. *Recognition of regulated professions and professional activities in Slovenia covered by directive 92/51 EEC.* Ljubljana: National VET Observatory Slovenia

Ivančič A., et. al., 1998. *Continuing vocational training in Slovenia.* Ljubljana: National VET Observatory Slovenia

Krajnc B.; et al., 1997. *The evaluation of the higher vocational colleges.* Ljubljana: CPI

Medveš Z., 1998. *Conception and Realisation of the Current Programme Renovation in the Sphere of Vocational Education.* In idem

Medveš Z., Muršak J., 1998. *VET – Reform in Slovenia: What has been achieved?* In idem

Ministry of Labour, Family and Social Affairs, 1999. *The Labour Market Review – 2nd Draft,* Ljubljana.

Muršak J., 1998. *Incorporation of the Phare Vocational Education and Training Reform Program in Slovenia in the National Project of Vocational Education and Training Renewal – a Prerequisite for its Success.* In idem

OECD, 1998. *Education Policy Review Slovenia.* Paris

Palandacic M. ed., 1998. *Programme and project managers' achievements and experiences of the Phare VET reform programme in Slovenia.* Phare. Ljubljana: CPI

Picard E., 1997. *Evaluation of the Phare programme-Reform of Vocational and Professional Education in Slovenia.* Paris: AFPA International S.A.

Polak M., Trbanc M., 1997. *The Report on Tertiary Professional/Vocational Education in Slovenia.* Ljubljana: National VET Observatory Slovenia

Sander T., 1998. *Report on Evaluation of the Slovenian "Dual System" of Vocational Education and Training.* In idem

1366

Sever B., Tkalec V., 1999. *Review of sources and systems of information on vocational qualifications in Slovenia.* Ljubljana: National VET Observatory Slovenia, Centre of the RS for Vocational Education and Training

Stanojevič M., Šlander V., Trbanc M., 1998. *The Role of Social Partners in the Development of Training in Slovenia.* Ljubljana: National VET Observatory Slovenia

Šuštaršič T., 1998. *Assessment of the Phare Vocational Education and Training Reform Programme in Slovenia.* Ljubljana: CPI

The Slovene Adult Education Centre, May 1999. *The Evaluation of the pilot higher vocational education projects, case study Higher vocational college for catering and tourism Bled.* Interim report. Ljubljana: SAEC

Trbanc M., ed., 1997. *Report on the Vocational Education and Training System, National Observatory Country Report.* Ljubljana

Verša D., et al., 1998. *Vocational Education and Training in the Context of Regional Development in Slovenia.* National Employment Office, Ljubljana: National VET Observatory Slovenia

VET and LM Key Indicators Report for Slovenia. 1996, 1997,1998

Other

Barr N. ed., 1994. *Labour markets and social policy in CEE. The transition and beyond.* The World Bank, LSE: Oxford University Press

ETF. *Vocational training as an instrument to combat unemployment – Implications for the candidate countries of CEE.* Turin: ETF

Kromann W., 1999. *A cross-country report on "The state of play of regulated professions, as defined by Council Directive 92/51/EEC,in the candidate countries of Central and Eastern Europe".* ETF. Luxembourg: EUR-OP

OECD, 1999. *Adults in training: an international comparison of CVT.* CERI/WD(99)1

1367

Annexes

Annex 1: Tables

Table 1: Key data (see page 217)
Table 2: Key employment indicators (see page 218)
Table 3: Unemployment by educational attainment, 25-59 year olds, 1997 (%) (see page 220)

Table 4: Educational Attainment by Age Groups, 1997 (%) (25 – 59 year olds)

	Age groups													Total	
	25 – 29			30 – 39			40 - 49			50 - 59				25 - 59	
	ISCED 0 - 2	ISCED 3	ISCED 5 - 7	ISCED 0 - 2	ISCED 3	ISCED 5 – 7	ISCED 0 - 2	ISCED 3	ISCED 5 - 7	ISCED 0 - 2	ISCED 3	ISCED 5 - 7	ISCED 0 - 2	ISCED 3	ISCED 5 - 7
ALB	54	40	6	54	39	8	55	35	11	73	19	5	59	34	7
BUG	24	59	17	24	56	20	30	49	21	48	36	16	32	49	19
CZR	7	82	10	9	78	12	15	74	11	21	69	10	14	75	11
EST	8	56	36	7	46	47	12	43	45	25	36	39	13	44	43
HUN	21	68	11	22	64	14	30	56	14	54	35	11	33	55	13
LAT	11	76	13	6	78	16	13	69	19	32	53	15	15	69	16
LIT	13	45	43	8	43	50	14	38	48	37	24	37	18	37	45
POL	53	37	9	52	37	10	56	34	9	62	25	10	55	34	10
ROM	12	78	10	17	70	13	33	49	18	60	26	15	31	55	14
SLK	8	81	11	11	77	12	18	69	13	36	54	10	18	70	12
SLO	18	68	14	20	64	16	31	57	12	37	51	12	27	59	14
EU15	31	48	21	x	x	x	x	x	x	x	x	x	41	40	20

Source : Key Indicators 1999, European Training Foundation, 1999

Note: for Albania: 20 – 29 year olds, 20 – 59 year olds, year 1998, (Key Indicators 2000, draft report, European Training Foundation, 2000)

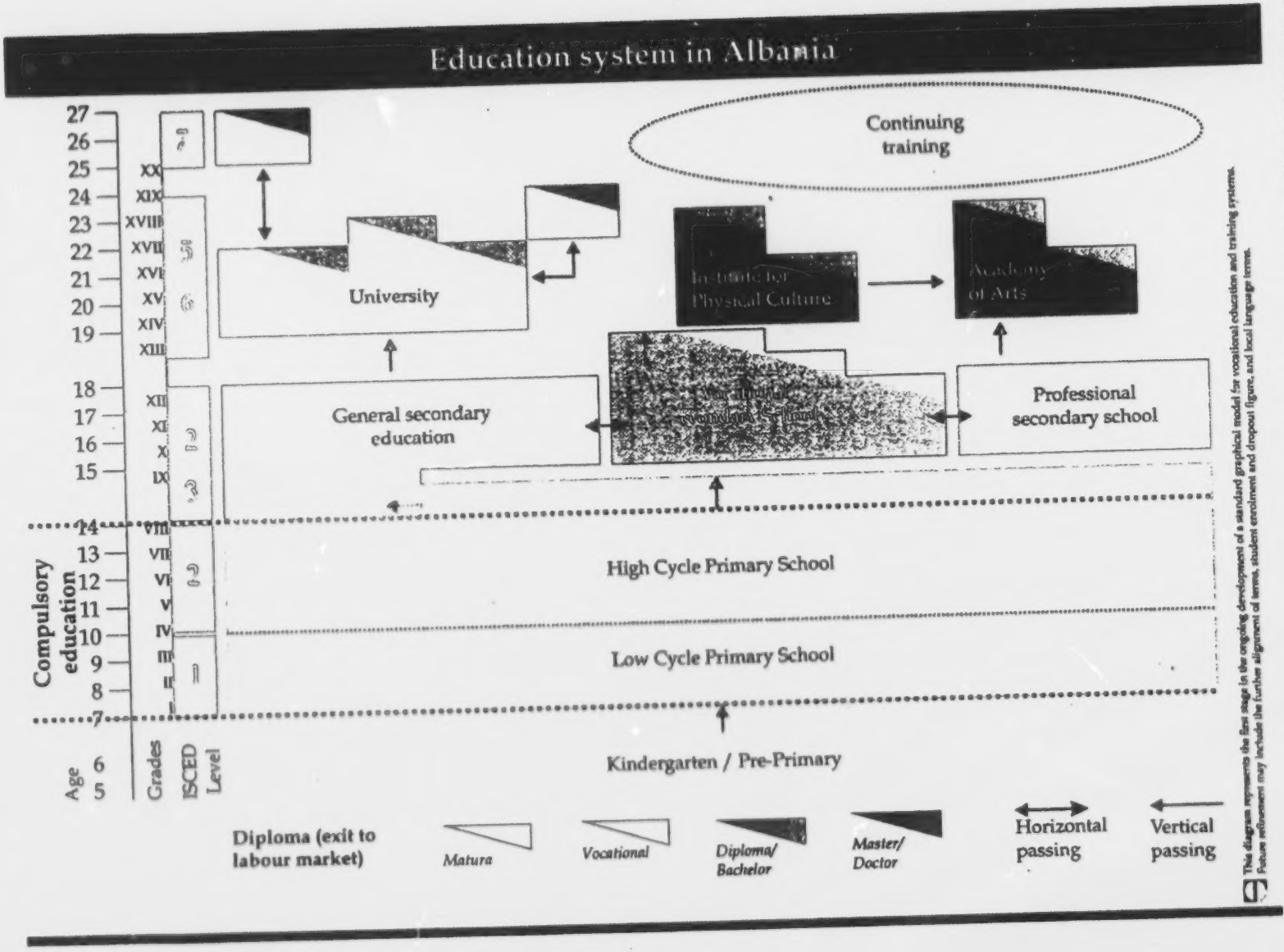
Table 5: Internet hosts per 10 000 people (1997)

CEE countries		Selected EU/OECD countries	
Albania	0,32	Germany	106,68
Bulgaria	6,65	France	49,56
Czech Republic	47,66	Finland	653,61
Estonia	45,35	Portugal	18,26
Hungary	33,29	EU average	
Latvia	21,03		
Lithuania	7,46	United States	442,11
Poland	11,22	Japan	75,80
Romania	2,66		
Slovakia	20,47		
Slovenia	85,66		

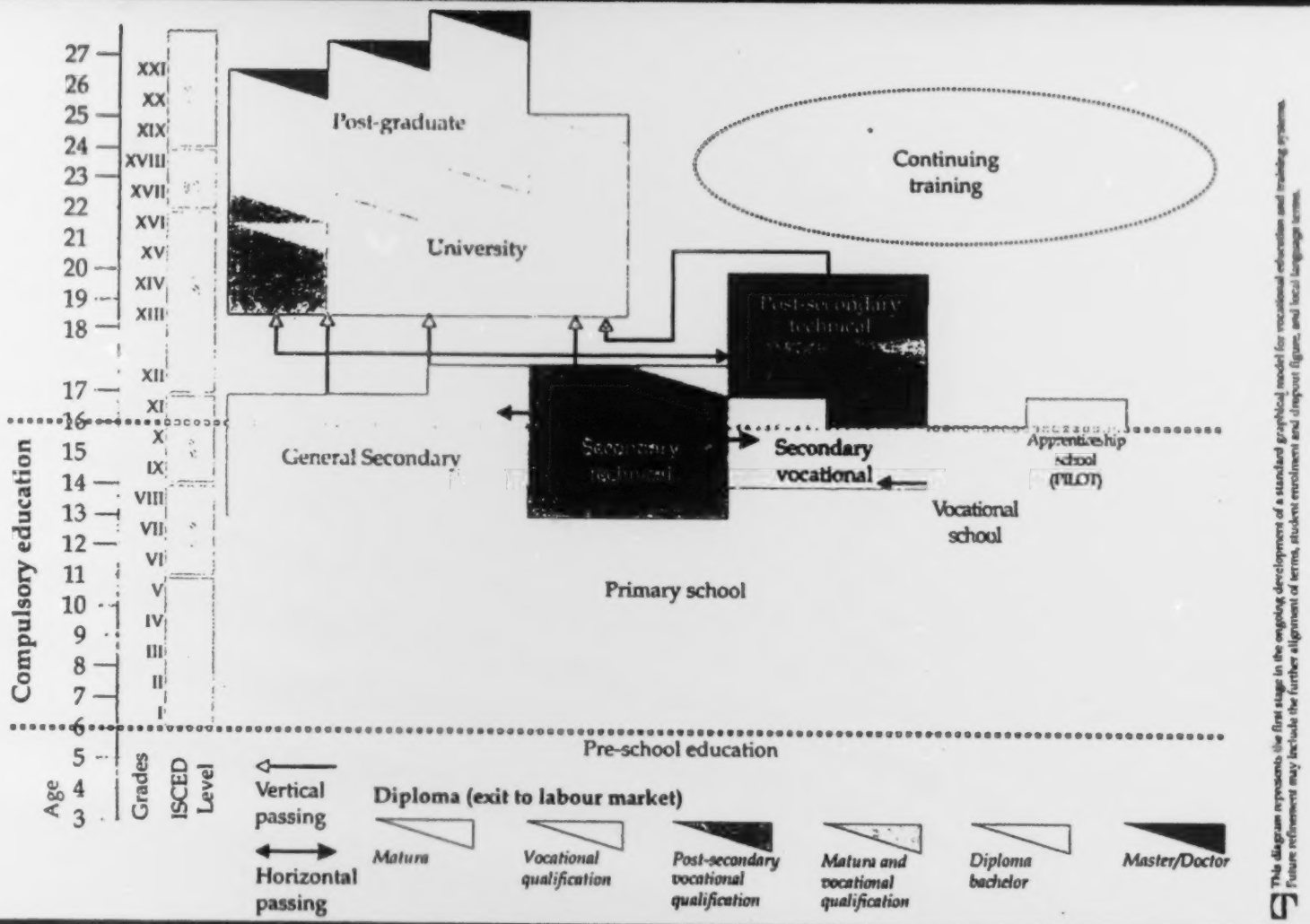
Source: World Development Indicators 1998, the World Bank 1998

1370

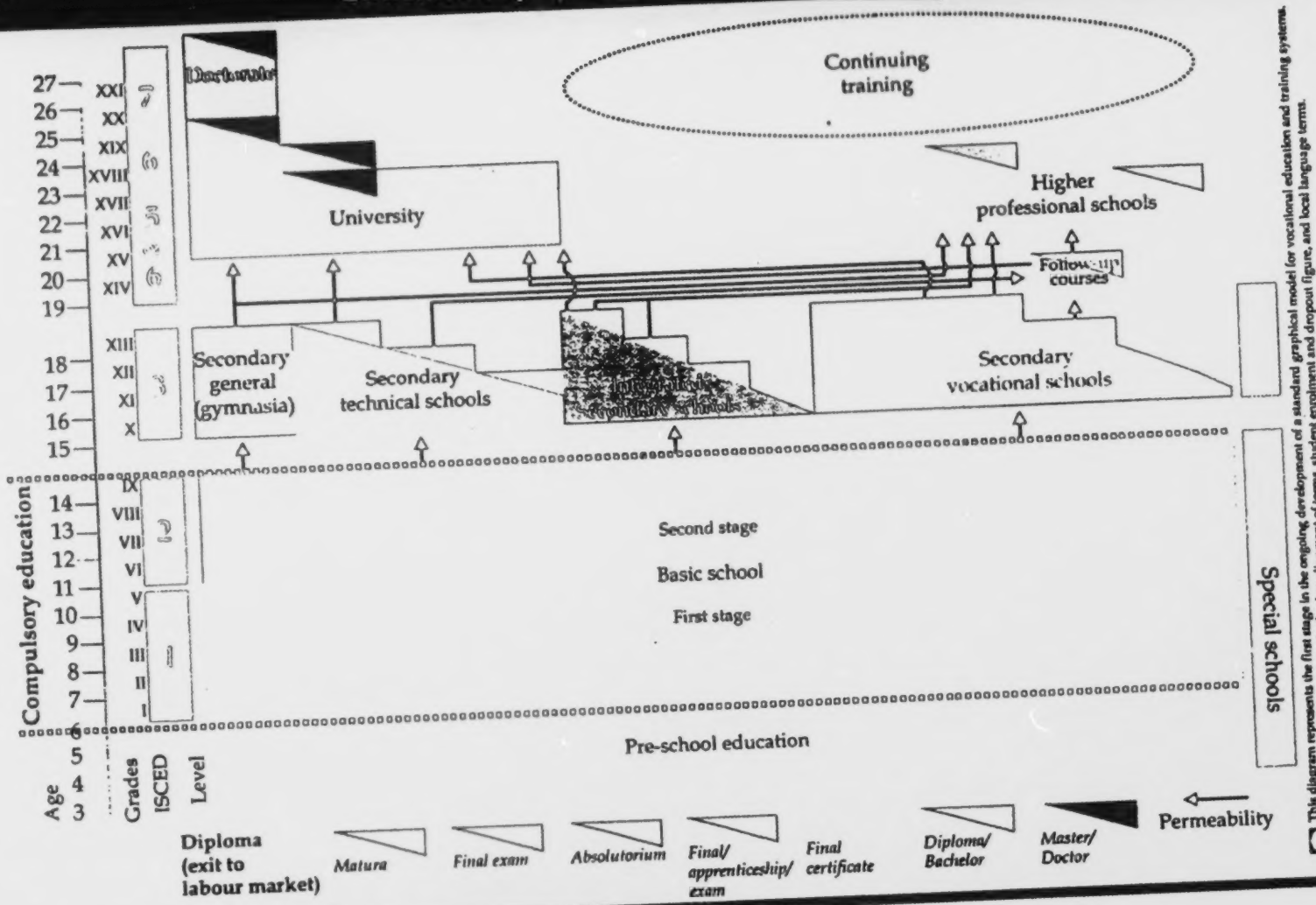
Annex 2: Diagrams of systems of education of eleven CEE countries



Education system in Bulgaria



Education system in the Czech Republic

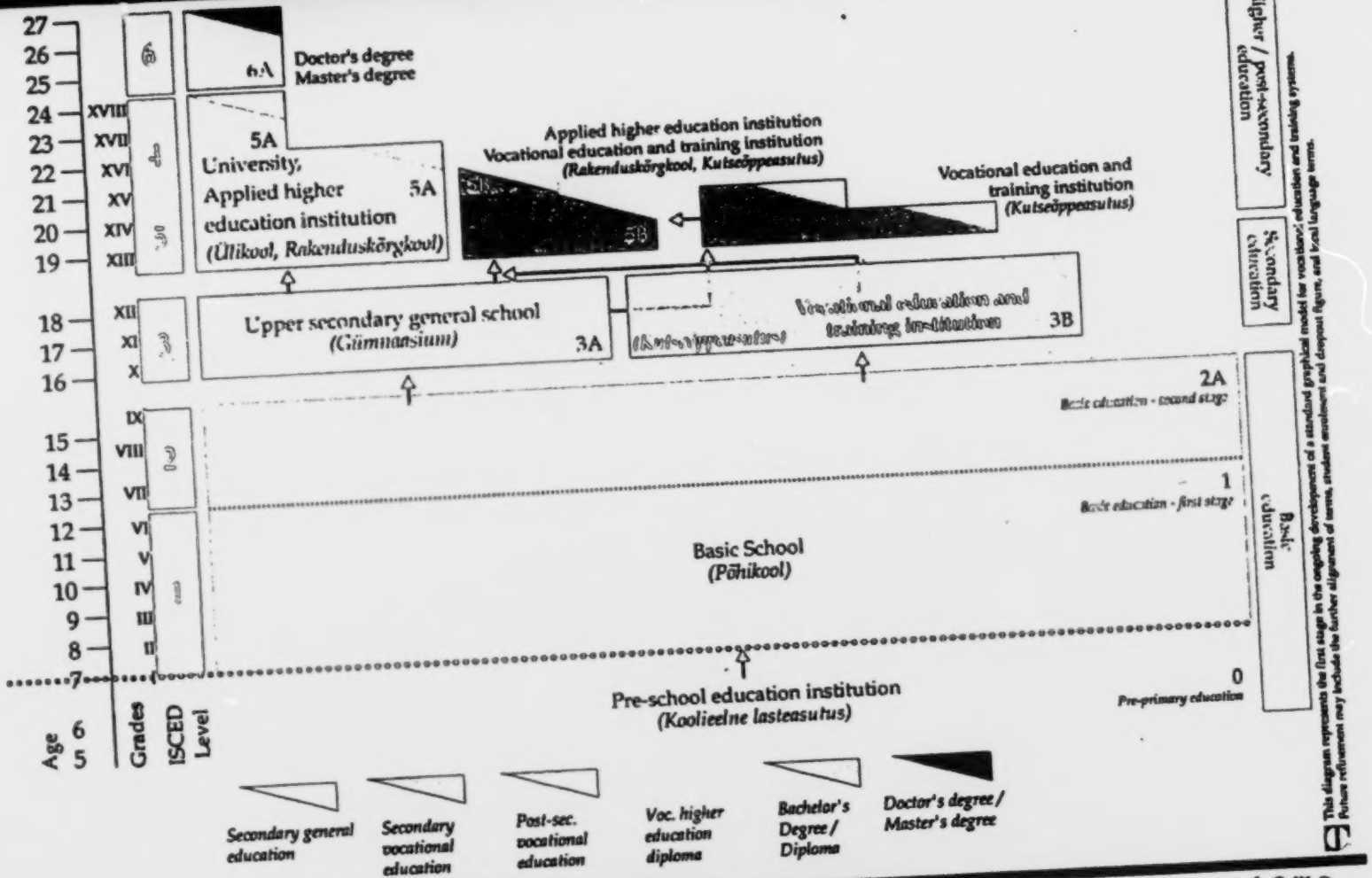


This diagram represents the first stage in the ongoing development of a standard graphical model for vocational education and training systems. Future refinement may include the further alignment of terms, student enrolment and dropout figure, and local language terms.

1376

1375

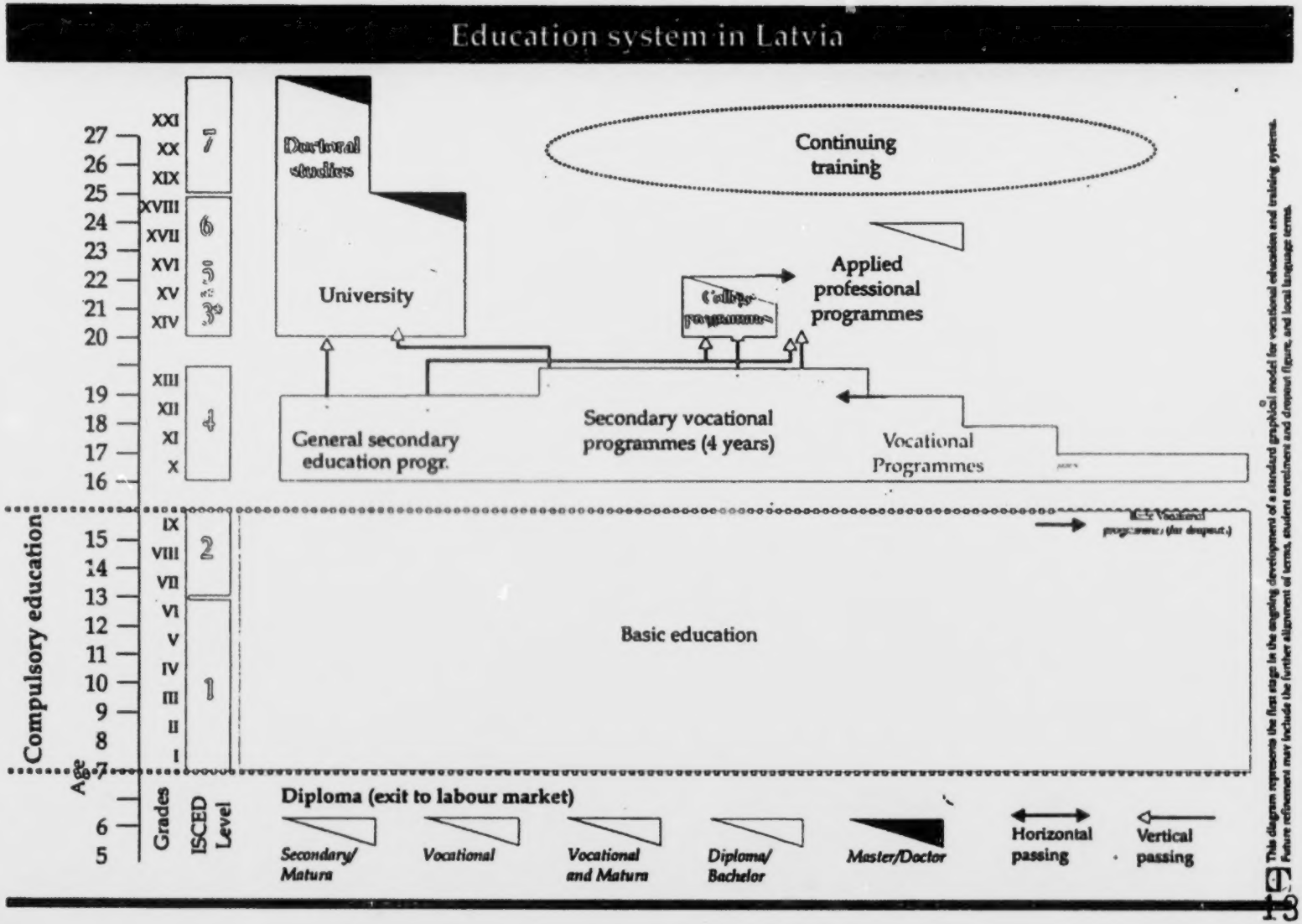
Education system in Estonia



This diagram represents the first stage in the ongoing development of a standard graphical model for vocational education and training systems. Future refinement may include the further alignment of terms, student enrolment and dropout figures, and level language terms.

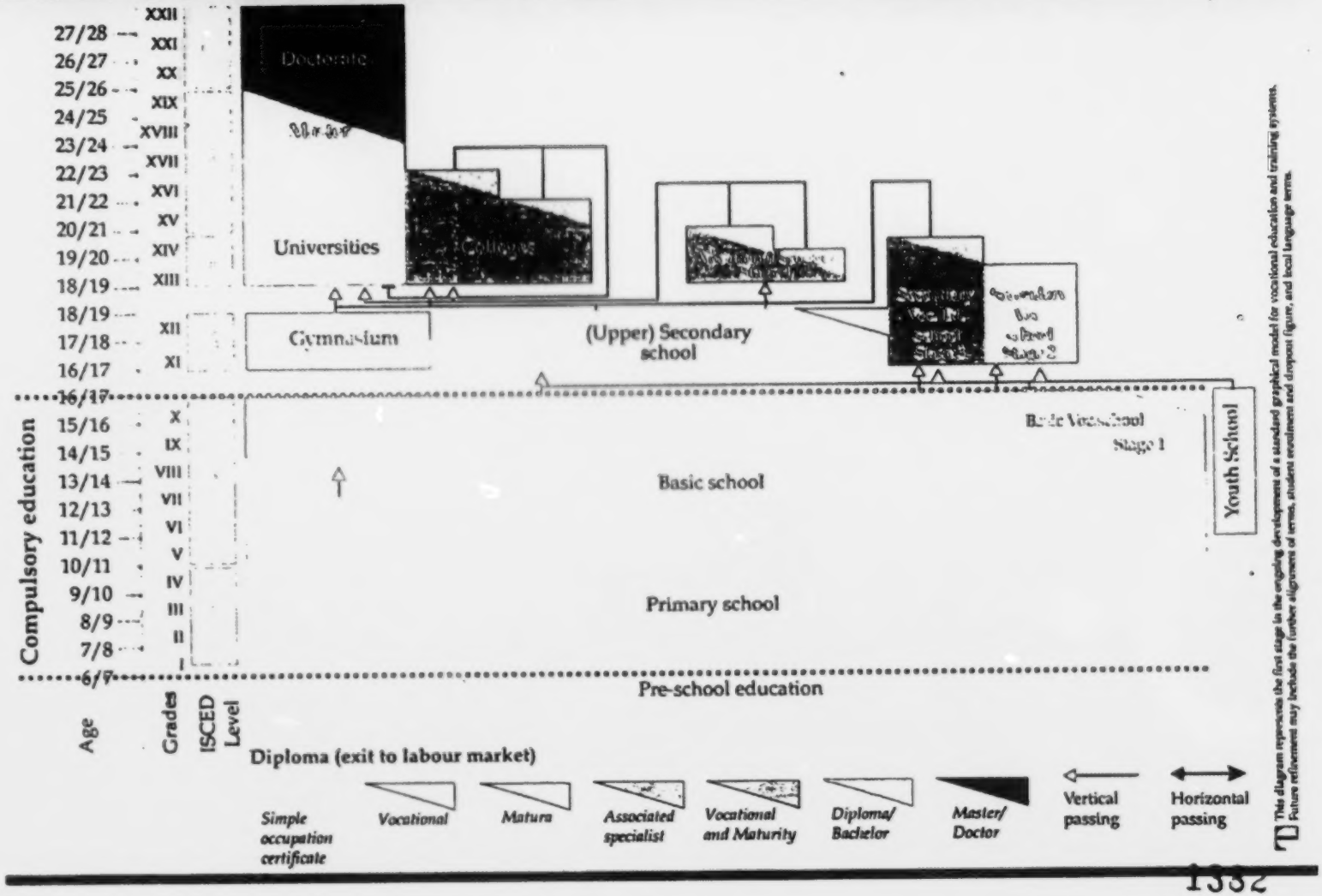
1377

1378

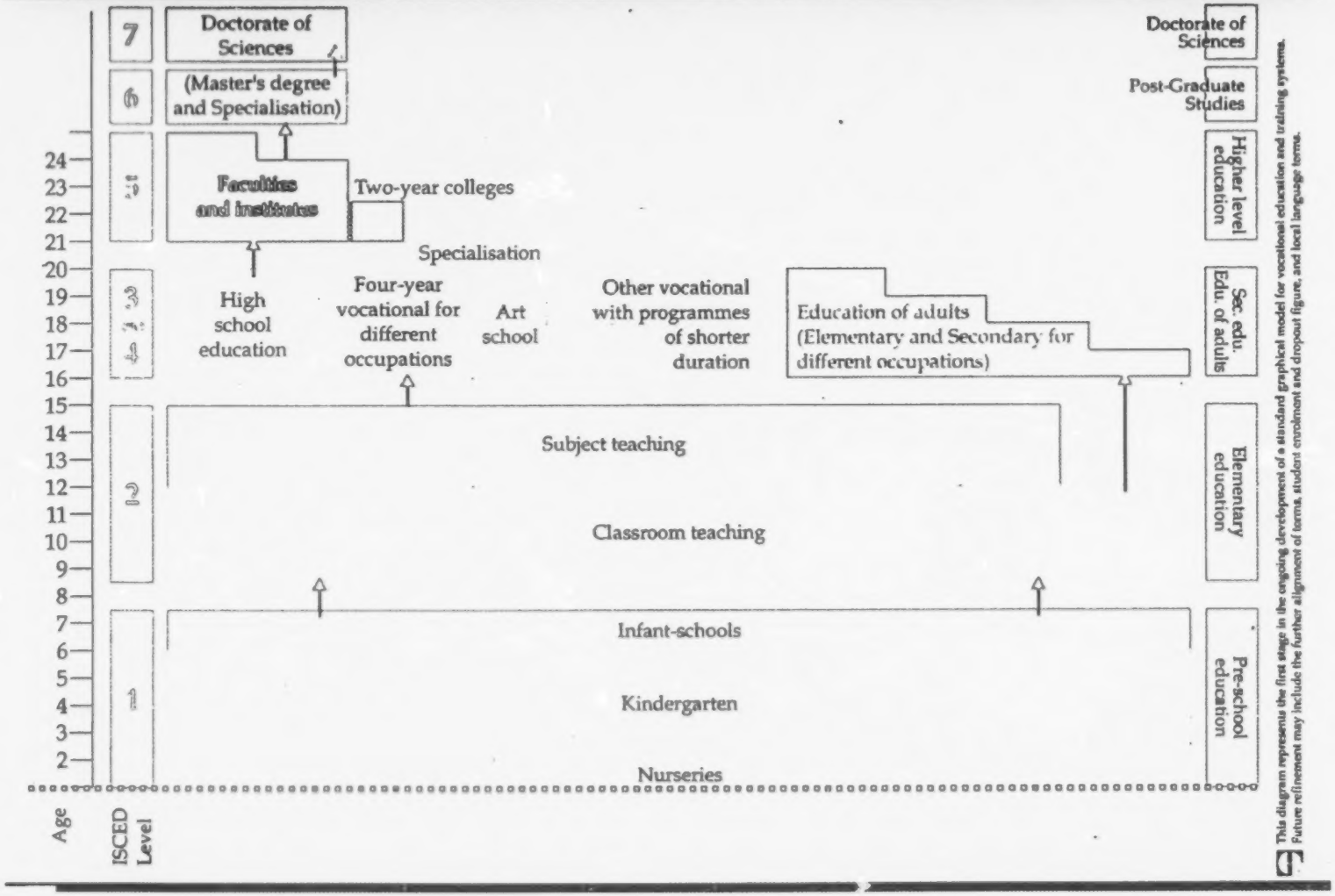


This diagram represents the first stage in the ongoing development of a standard graphical model for vocational education and training systems. Future refinement may include the further alignment of terms, student enrolment and dropout figures, and local language terms.

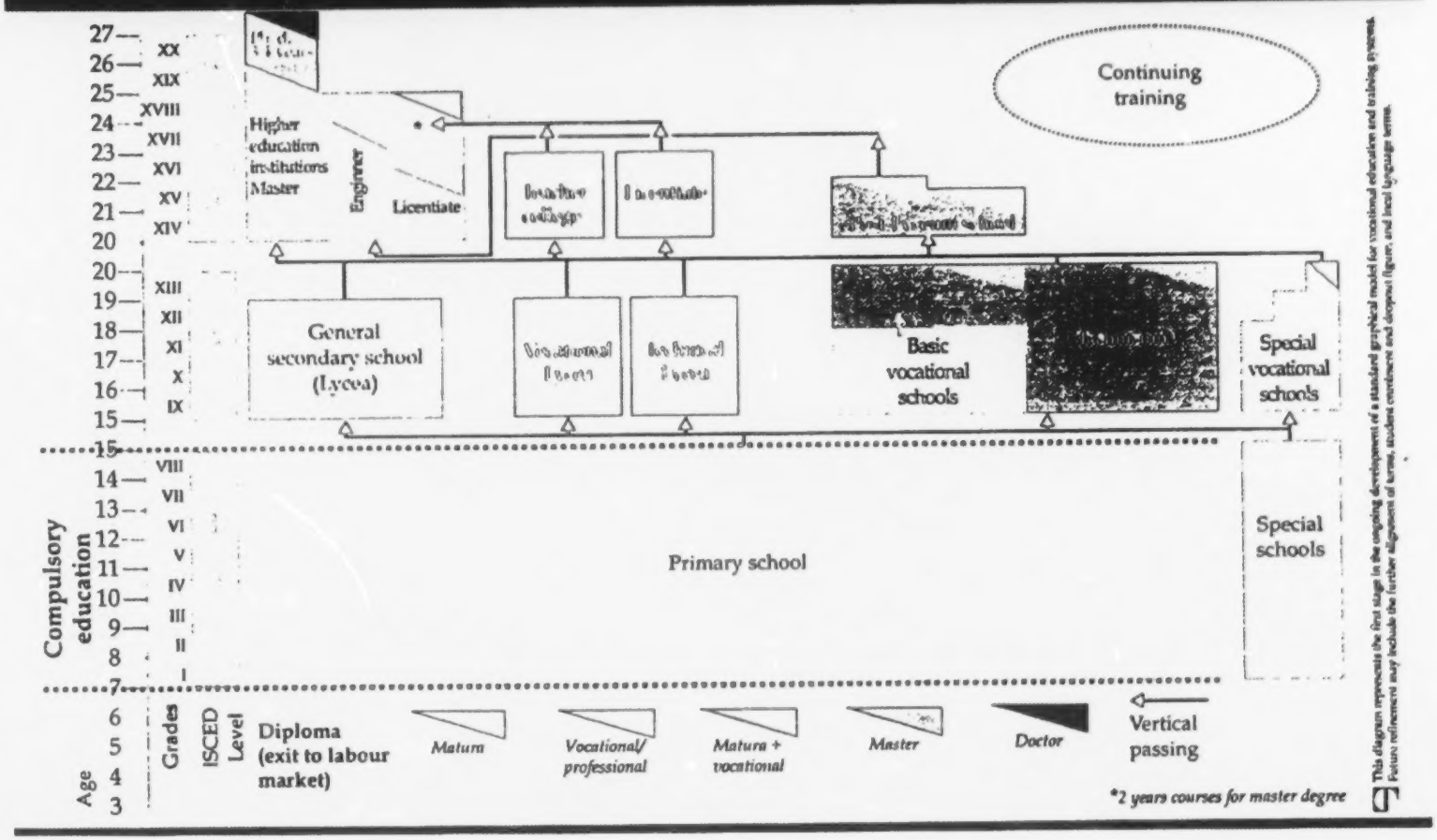
Education system in Lithuania

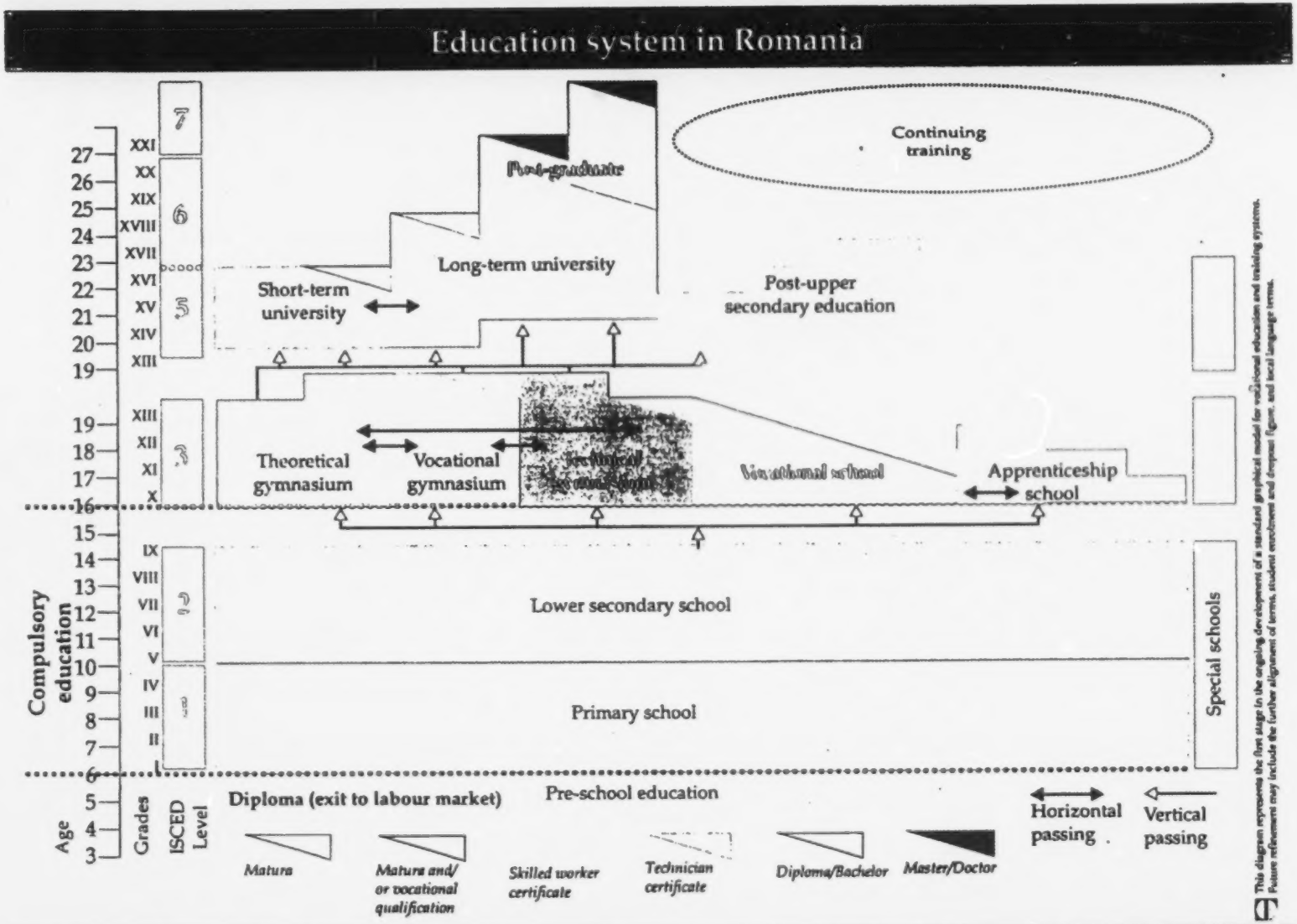


Education system in the former Yugoslav Republic of Macedonia

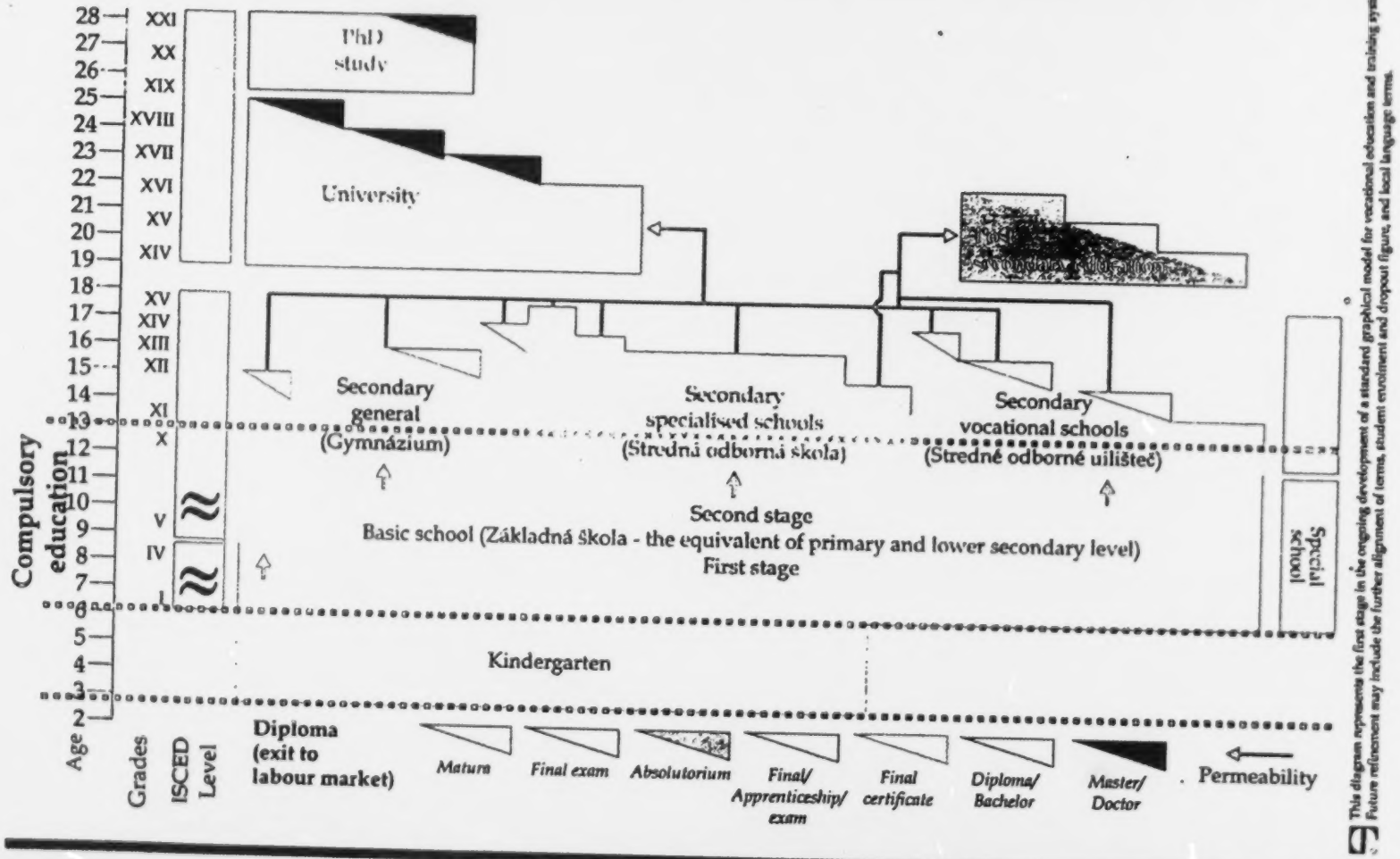

7
6
5A
5B
4
3
2
1
Doctorate of Sciences
(Master's degree and Specialisation)
Faculties and institutes
Two-year colleges
Specialisation
High school education
Four-year vocational for different occupations
Art school
Other vocational with programmes of shorter duration
Education of adults (Elementary and Secondary for different occupations)
Subject teaching
Classroom teaching
Infant-schools
Kindergarten
Nurseries
24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2
Age
ISCED Level
Doctorate of Sciences
Post-Graduate Studies
Higher level education
Sec. edu. Edu. of adults
Elementary education
Pre-school education
This diagram represents the first stage in the ongoing development of a standard graphical model for vocational education and training systems. Future refinement may include the further alignment of terms, student enrolment and dropout figure, and local language terms.

Education system in Poland



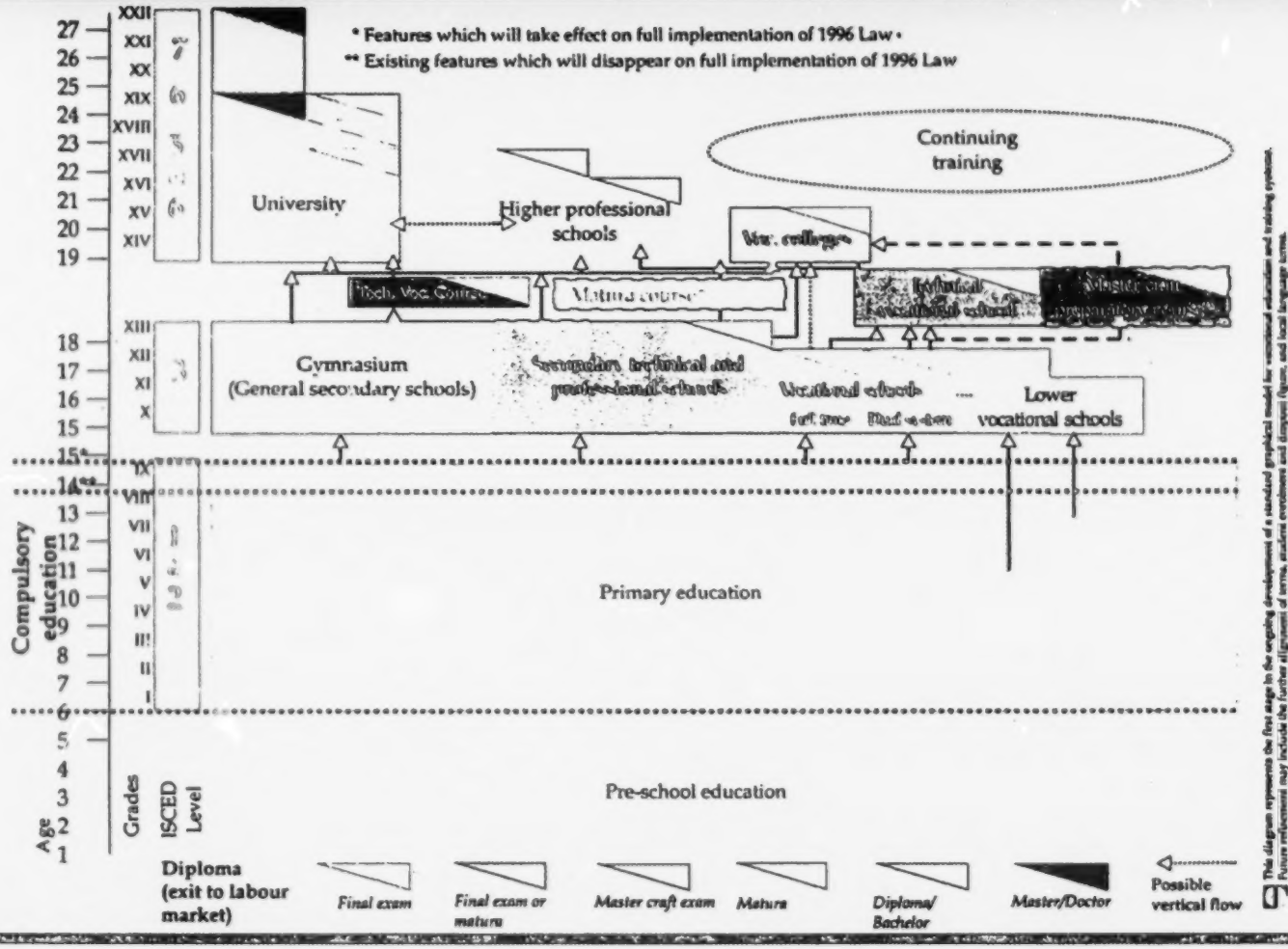

Education system in Romania
Continuing training
Post-graduate
Long-term university
Short-term university
Post-upper secondary education
Theoretical gymnasium
Vocational gymnasium
Apprenticeship school
Lower secondary school
Primary school
Special schools
Compulsory education
Pre-school education
Diploma (exit to labour market)
Horizontal passing
Vertical passing
Age
Grades
ISCED Level
Matura
Matura and/ or vocational qualification
Skilled worker certificate
Technician certificate
Diploma/Bachelor
Master/Doctor

Education system in the Slovak Republic



This diagram represents the first stage in the ongoing development of a standard graphical model for vocational education and training systems. Future refinement may include the further alignment of terms, student enrolment and dropout figure, and local language terms.

Education system in Slovenia



Annex 3

List of the international institution networks involved in VET research

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Mr Zef Shala

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Fax (359) 2-9888686
e-mail: 0511@mbox.infotel.bgf
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Ms Iskra Petrova

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National Training Fund
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Fax (420-2) 24214475
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Ms Olga Stryjecka Ilyina

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Department of Education Strategy
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Romania

Socrates National Agency
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70626 Bucharest

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Ministry of Education and Sport
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1394

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Leonardo da Vinci National Agencies

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Annex 4

List of national institutions and associations involved in VET analysis and policy

Albania

Institute of Pedagogical Studies
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Institute of Labour and Social Affairs
Ministria e punës
Rr. Kavajës
Tirana
Tel./Fax (355) 42 47672

Centre for Information, Vocational Education and Training
Pallati Bogdanëve
Rr. Kavajës
Tirana
Tel./Fax (355) 42 27615

Albanian Education Development Program
Soros Foundation
Rr. "Themistokli Gërmenji" Nr.3/1
Tirana
Tel. (355) 42 27731
Fax (355) 42 30506

Vocational Education Development Project
German Organization for Technical Co-operation
Pallati Bogdanëve
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Tirana
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1402

Uwe Lauterbach et al.

Abstract

The paper gives an overview on VET research in a number of non-EU countries. It seeks to identify and to structure research undertaken at national, regional and international levels. However, to present a comprehensive and all-embracing study is almost impossible because of the difficult demarcations of VET research with corresponding research activities, the multi- and interdisciplinary orientation in various countries and the heterogeneity of the institutions, associations and researchers involved. In a first step, based on secondary analyses, the most important institutions, networks and research outcomes in the countries, regions and international organisations covered by this paper are described in different depth. Primary analyses have been carried out for the People's Republic of China, Canada, South America and for the IEA. For the other countries and institutions, work focused on stocktaking of relevant VET research provisions (research results, databases, thematic and other networks, information on classification systems, etc.).

The overview shows that, in general, there is an increasing trend to focus VET research on the interrelationships between economic development, labour market needs and vocational training. Purely school-based vocational training is in decline (e.g. in South America) and one increasingly includes research on labour market needs. Besides this, another general research field is pragmatic or policy-oriented research concerning the evaluation or development of existing or planned system reforms. Main fields are curriculum research, didactics, methodologies and media in training.

Universally, the support of thematic networks and the provision of information (databases, research results, etc.) is of increasing importance. Cooperation and taking on board experiences and suggestions from other countries rank high in the promotion and development of national systems of vocational training. Equally, international organisations (in particular ILO, OECD, Unevoc) are important providers of information, documentation and cooperation.

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Table of contents

Executive summary 325

1. Introduction and returns, by Uwe Lauterbach 326
1.1 Areas of investigation and problems with delimitation 326
1.2 Results of the investigation 329
1.2.1 Links between national VET research, the respective vocational education concept and the level of development of vocational education 329
1.2.2 International organisations and vocational education or the education concept versus the economic concept? 330
1.2.3 Are there any world-wide priorities in VET research? 331
1.2.4 The outcome of VET research (transfer function) 332
1.3 Outlook as an analysis of shortcomings and as a proposal for further research 333

2. Countries 334
2.1 Australia, by Uwe Lauterbach and Ute Lanzendorf 334
2.1.1 Introduction to the education and vocational training system 334
2.1.2 Research in Vocational Education and Training 335
2.1.3 Future issues affecting the VET sector 336
2.2 People's Republic of China, by Josef Rützel and Stefan Ziehm 336
2.2.1 Introduction to the Chinese education and vocational education system 336
2.2.2 VET research 337
2.3 Japan, by Walter Georg 340
2.3.1 Japanese Institute of Labour 340
2.3.2 Polytechnic University 341
2.3.3 National Institute for Educational Research (Kokuritsu kyôiku kenkyûjo- NIER) 341
2.4 Canada, by Philipp Grollmann 341
2.4.1 Current priorities of VET research in Canada 341
2.4.2 DACUM and co-operation in international vocational education 341
2.4.3 Vocational education in Canada and VET research in the universities and research institutes 342
2.4.4 School-to-work-transition research and research by Human Resources Development Canada (HRDC) 342
2.4.5 Political and industrial-sociological labour market research into vocational education and further training 343
2.4.6 Research networks in the field of vocational education and further training 343
2.5 Russian Federation, by Friedrich Kuebarth 344
2.5.1 VET research 344
2.5.2 Research structures 345
2.5.3 Research associations 346
2.6 Switzerland, by Ulrich Arnswald and Daniela Heipel 346
2.7 Latin America, focus South America, by Daniela Heipel and Ute Lanzendorf 347
2.7.1 Introduction to the vocational education systems in Brazil, Argentina and Uruguay 347
2.7.2 Themes and trends in VET research in South America 351
2.7.3 The Inter-American Centre for Research and Documentation on Vocational Education (Centro Interamericano de Investigación y Documentación sobre Formación Profesional, CINTERFOR) 352
2.7.4 The International Centre for Education, Labour and the Transfer of Technology (Centro Internacional para la Educación, el Trabajo y la Transferencia de la Tecnología, CIET) 353

1494

2.7.5 The National Research Centre for Human Development (Centro Nacional de Estudios de Población, CENEP)/ Education and Labour Network (Red Educación y Trabajo) ... 354
2.8 Turkey ... 354
2.9 United States of America, by Uwe Lauterbach ... 355
2.9.1 Introduction to the education and vocational education system in the USA ... 355
2.9.2 VET research and national vocational education policy ... 356
2.9.3 VET Research outside national vocational education policy ... 357

3. International scientific societies and independent research establishments ... 357
3.1 Establishment and organisational framework, by Uwe Lauterbach ... 357
3.2 International Association for the Evaluation of Educational Achievement (IEA), by Uwe Lauterbach and Brigitte Steinert ... 359

4 International organisations ... 360
4.1 World Bank Group, by Heike Maier and Heinz Bartel ... 360
4.2 Unesco, by Heike Maier and Heinz Bartel ... 361
4.3 International Labour Organisation (ILO), by Heike Maier and Heinz Bartel ... 364
4.4 Organisation for Economic Co-operation and Development (OECD), by Brigitte Steinert and Heike Maier ... 366

Bibliography ... 368

Annex: Addresses of national research institutions, international scientific societies and international organisations ... 370
National research institutions ... 370
Independent supra-regional and international scientific societies and research institutes ... 373
International organisations and their research and documentation institutes ... 373

140

Abbreviations

ACER	Australian Council for Educational Research, Australia
ANTA	Australian National Training Authority
ATS	Australien Traineeship System
BBT	Bundesamt für Berufsbildung und Technologie Federal Office for Vocational Education and Technology
CEA	Canadian Educational Association
CECAP	Centro de Capacitación Profesional Centre for Vocational Education
CESE	Comparative Education Society of Europe
CIES	Comparative and International Education Society
CENEI	Centro Nacional de Educación Técnologia National Centre for Technological Education
CENEP	Centro Nacional de Estudios de Población Formação National Human Development Research Centre
CENID	Centro Nacional de Investigación y Desarrollo del Sistema Dual National Centre for the Research and Development of the Dual System
CETP	Consejo de Educación Técnico-Profesional Council for Techno-Vocational Education
CIEP	Centre International d'Etudes Pédagogique Sèvres
CIET	Centro Internacional para la Educación, el Trabajo y la Transferencia de la Técnología International Centre for Education, Labour and the Transfer of Technology
CINTERFOR	Centro Interamericano de Investigación y Documentación sobre Formación Profesional Interamerican Centre for Research and Documentation on Vocational Education
CINTERNET	Red de Información y Gestión sobre Formación Profesional para América Latina y el Caribe Information and Management Network for Vocational Education in Latin America and the Caribbean
CNI	Confederación Nacional de la Industria National Confederation for Industry

BIBB	Bundesinstitut für Berufsbildung Federal Institute for Vocational Education
DACUM	Design or Develop a Curriculum
CONET	Consejo Nacional de Educación Técnica National Technical Education Board
DEETYA	Commonwealth Department of Employment, Education, Training and Youth Affairs
DINAE	Dirección Nacional de Empleo National Employment Directorate
DIPF	Deutsche Institut für Internationale Pädagogische Forschung German Institute for International Educational Research
IEA	International Association for the Evaluation of Educational Achievement
ILO	International Labor Organization
INES	Indicators of Education Systems
INET	Instituto Nacional de Educación Técnica Institute for Technical Education
ISCED	International Standard Classification of Education
JUNAE	Junta Nacional de Empleo National Committee for Employment
MERCOSUR	Mercado Común del Sur Common Market of the South- Argentina, Brazil, Paraguay and Uruguay
METARGEM	The Research and Development Center of Vocational and Technical Education
NCRVE	National Centre for Research in Vocational Education, USA
NCVER	National Centre for Vocational Education Research, Australia
NTMCR	National Training Markets Research Centre, Australia
OECD	Organisation for Economic Co-Operation and Development
OSTA	Occupational Skill and Testing Authority
PTU	Professional-Technical School
SENAC	Serviçio Nacional de Aprendizagem Comerzial National Service for Training in Commerce
SENAI	Serviçio Nacional de Aprendizagem Industrial National Service for Training in Industry

1407

SENAR	Serviçio Nacional de Formação Profissional Rural Nationaler Service for Training in Agriculture
SIBP	Schweizerische Institut für Berufspädagogik Swiss Institute for Vocational Education
SKBF	Schweizerische Koordinationsstelle für Bildungsforschung

Swiss Coordinating Unit for Educational Research

SNFMO	Sistema Nacional de Formação de Mão-de-Obra National System for Manpower Training
SSHRC	Social Science and Humanities Research Council
TAFE	Technical and Futher Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	UNESCO Technical and Vocational Education Projekt
UTU	Universidad del Trabajo del Uruguay

Uruguayian Labour University

VET	Vocational education and training
WCCES	World Council of Comparative Education Societies
ZIBB	Zentralinstitut für Berufsbildung des Erziehungsministeriums Central Institute for Vocational Education (Ministry for Education)

Executive summary

This report attempts to identify and structure the focuses for VET Research in a geographical/political area several times the size of the EU at national (e.g. USA, Japan, China, Russia, Switzerland, Brazil, Argentina, Canada, Uruguay, Australia, Turkey, etc.), regional (e.g. MERCOSUR) and international level (scientific societies: International Association for the Evaluation of Educational Achievement (IEA), international organisations: ILO, OECD, UNESCO, World Bank). It is an exercise reminiscent of trying to square a circle, on account of:

- the virtual impossibility of delimitation of corresponding research activities;
- the multi- and inter-disciplinary set-up;
- the fact that research is conducted by institutions permanently supported by the state or public bodies, by international organisations and societies and by independent researchers.

Thus in an initial drive to establish some lines of demarcation an attempt was made to identify important institutions, networks and research results. For the countries, regions and international organisations listed above, this was done at various levels. For the People's Republic of China and Canada, as well as for South America and the IEA, primary analyses were conducted. For the remaining countries and institutions, the inventory of useable resources for VET Research (research results, data bases, thematic and other networks, information on classification systems, etc.) was the main source.

Was it possible to identify any global priorities? Generally speaking, research appears to be concentrating more heavily on the interdependencies between economic development, the needs of the labour market and vocational education. Purely academic vocational education came in for criticism (cf. example of South America), and hopes are being placed in the results of research oriented towards the needs of the labour market. Besides this priority, which is based more on a change of paradigm, the focus of national or regional activities is obviously 'pragmatic', policy-oriented research related to the assessment or development of available or planned national system structures. Curriculum research as well as teaching, methodology and media were all priorities. Thematic networks are commonly promoted and a wide range of information (databases, research results, etc.) provided. Co-operation and the possibility of drawing on other people's experience are very valuable resources when it comes to promoting and developing ones own national vocational education system. Even the international organisations (particularly the ILO, OECD and UNEVOC) depend on information, documentation and co-operation.

Since the EC area is tied in with the globalisation of this worldwide development, and comparative VET research has always provided for global dialogue alongside national or regional systems development, there is also a need for the EU to act. The experiences of comparative systems outside the EU should be tapped in order to prompt the further development of the highly diverse national VET systems which exist within Member States. Moreover, classification systems (ILO, OECD) and achievement assessment concepts (OECD) indirectly exercise a standardising effect on national VET systems. The involvement of supra-national bodies such as the EU – despite the fact that the individual EU Member States also belong to the ILO and the OECD – is therefore of the essence. Given the importance of global dialogue and the worldwide exchange of experience on VET-research, the EU should more actively embrace activities in this field.

Possible flanking measures could include:

- Studying the national research activities of the 'other countries' and the results of meetings of international scientific societies as well as what is provided by the international organisations, using policy-oriented state of the art analyses of more broad-ranging reports;
- Promoting dialogue between vocational education researchers in EU countries and

the countries, regional bodies, international scientific societies and international organisations covered by this report, through exchange programmes;

- Promoting the setting-up and running of thematic networks and information systems;

- Promoting dialogue and transfer between politics, EU institutions and the scientific community through meetings on specific topics.

1. Introduction and returns, by Uwe Lauterbach

1.1 Areas of investigation and problems with delimitation

In the 1st Report on Vocational Training Research in Europe (Tessaring 1998), the section on the Theory and Methodology of International Comparisons explained how VET research is tied in with many different disciplines. Only a generally accepted definition of vocational training research/ VET research can clarify the scale and depth of this field of research.

It deals with the aspects of the education and vocational training system, which are either directly or indirectly related to professions, to gaining qualifications, and to (professional) activities. It also studies the conditions, pathways and consequences of acquiring these specialised and extra-functional qualifications within the context of the cultural, social, political, historical and economic framework conditions, e.g. personal and social attitudes and leanings, which would appear to be important for training and further training and for performing (professionally) organised work processes. Vocational training systems (formal, non-formal, informal) should thereby be regarded as part of the overall education system.

The size of the research field is also demonstrated in the 1st report and the two volumes of the Background report 1998 (Cedefop 1998). The role of this contribution cannot therefore be to carry out a broad-ranging assessment of all the results of VET research worldwide – with the exception of the EU and the Central, Eastern and Southern European Countries (cf. the contribution of O. Ilina, in this volume). The point is more to focus on and tackle the following questions:

1. Is there a particular focus known as VET research in the national research landscape, and if so, where does it lie?

2. Which scientific institutes and university departments carry out VET research?

3. Are there any (scientific, application-oriented, etc) associations/societies/networks, which are primarily involved in VET research (including statistics)?

4. What are the most important results of research, and what do they concentrate on: systems research (e.g. steering, quality research, evaluation of attempts at reform, financing), labour market research (e.g. qualifications research, unemployment and labour management measures), curriculum research (key qualifications)?

5. What are the most important publications (monographs, statistics)?

Simply dealing with these questions alone would entail a research programme spanning several person-years. This bold-looking statement can be easily confirmed using a couple of examples. In the USA there is no one single national society for vocational training research. Interesting research projects are carried out by sociologists, educationalists, economists, and psychologists, to name but a few. In order to get the overall picture, virtually the whole of the research landscape would have to be scanned. Thought would have to be given to which projects actually focus on vocational education, and which lie more within general education, particularly bearing in mind that vocational education can differ very widely according to the cultural context. One example of this would be how in English, French and Spanish speaking countries vocational education distinguishes between actual vocational and technical educa-

tion, and the problems of translating from one language to another.

The term *'Technisch-berufliche Bildung'* is rendered in English by drawing a distinction between *technical education* and *vocational education*. 'Technical education' refers to areas of training which have traditionally been more theory-based, such as laboratory technicians, technicians, accountants and managers, in other words not only to the technical education which would relate to engineering in a German speaker's mind. 'Vocational education' is separate from technical education, with the former relating to more manual, 'simple' activities. To a certain extent UNESCO also uses these definitions, for example.

Within the European Union a further distinction is drawn between vocational education (school-based) and vocational training (company-based), abbreviated as VET. There is no term to put across the idea conveyed by the German *berufliche Bildung* which covers the concept of vocational 'learning'. This term, which is based on a theory of vocational learning, covers both basic and further vocational learning in all areas. It also embodies the idea that general and vocational training should be of equal value. (Beck 1995, p.457-464)

This example alone exemplifies the multi-faceted nature of the dilemma. The reason for this lies in the fact that the subject of vocational education is not clearly defined. In many areas there is no point in distinguishing between VET research and educational research. When priorities are established, the delimitations must be thoroughly justified. This integral approach has been achieved in Switzerland. The Swiss Co-ordinating Centre for Educational Research includes vocational education as a heading in its index, and around 5% of projects are identified as VET research. Had other selection criteria been applied, however, the figure could well have been 20 or 30%. But the multi-faceted delimitation dilemma relates not only to the discussion as to whether VET research is a component of educational research, or whether research into vocational education also has much in common with other areas of research such as educational economics, and cultural research. The example of comparative cultural research shows quite clearly which other fields of research could usefully be looked into in relation to questions of comparative VET research (see also D'Iribarne 1999).

But it is not only these difficulties which have to be weighed up. The difficulty posed by the different levels to which vocational education has developed in the countries under investigation also comes into play. Whilst in the USA, Japan, Canada, Russia and Switzerland vocational education in the broadest sense of the term has long been the subject of research, the same cannot be said of Australia, Turkey, or the Latin American countries. Here vocational education is an important factor in the development of the national economy. The same is also true in the People's Republic of China, although, on account of the political framework conditions, it has proved virtually impossible to date to collect and analyse information on VET research.

In the case of international organisations there are at least two types:

a) Those which represent national state roles and bodies, and define political aims as an organisation, such as UNESCO (UNEVOC), the World Bank Group, the OECD, and the ILO.

b) The global scientific societies which also deal with questions of VET research, such as the Comparative Education Society in Europe, the World Councils of Comparative Education, or the International Association for the Evaluation of Educational Achievement (IEA).

The aim of these analyses of the national and international fields should be to pick out worldwide trends and the results of research on commonly recurring priority areas, and at the same time to analyse the shortcomings. There are several aspects to such an analysis of shortcomings:

1. When we made an offer in response to the call for tender we presumed ('we' being the working party on international vocational

education from the German Institute for International Educational Research) that our main method of investigation would consist of secondary analyses. Once work had begun, however, we quickly realised that although this assumption was correct in the case of individual institutions, analyses of countries and regions, as well as of international organisations would all have to be carried out using primary sources.

2. As mentioned in the introduction, VET research must first and foremost be defined within the context of the country in question. The essential role here is played by linguistic and cultural framework conditions. The link between national VET research, the respective concept of vocational education and the latter's degree of development has to be brought out in relation to each subject of study.

3. The definition has to be established in relation to the individual countries. The respective essential characteristics of the vocational education system play a leading role therein. In some countries – such as the USA – federal/national, regional and local activities run alongside the research interests of 'independent' researchers from a multitude of disciplines. The term 'structured chaos' is doubtless somewhat exaggerated, but it is a situation which is nonetheless confirmed by researchers with the appropriate experience. Which is why an answer has always to be given to the question as to whether there is any 'national VET research', or whether 'external' research interests transform it from fiction into fact?

4. Although providing the results of research leads to the effect just described in countries which have a democratic research tradition and a corresponding infrastructure for means of communication – such as the USA – the same does not hold for countries which on the one hand cannot provide the necessary technical facilities, and on the other cannot tap into either the experience or the mindset which can be described as the 'democratic Western research tradition'- e.g. China.

5. Snapshots of the state of research are useful, but mean very little in the absence of a 'development-related' dimension which can help to place current results within the correct context and perspective.

6. In the past, international scientific societies played an important role in the development of comparative educational research, thus providing an impetus for the development of VET research and comparative VET research. International comparisons of achievement and the international classification system date back to initiatives taken as of the late fifties by independent researchers within the scientific societies. For well-known reasons, e.g. multi- and inter-disciplinarity, the fact that it was based in different disciplines, the problem of delimiting research fields, comparative VET research has not thus far been able to establish itself as a scientific discipline. Even representatives of comparative education and independent scientific societies lagged behind when compared with international organisations. It is now the international organisations which – largely for economic reasons – hold pole position, particularly those which play a leading role both in politics but even more specifically in economic policy matters.

These comments alone, which crystallised out in the course of work on the main hypotheses in this research study, and which could easily be added to by a series of other aspects, indicate the difficulties involved in tackling the questions worked out with CEDEFOP. As a consequence of these working results the scope of the subjects to be studied and the general depth of the study were amended:

- Efforts at primary analysis were limited to a handful of countries alone, with pragmatic and fundamentally system-related aspects complementing each other in the selection process. Developing and threshold countries (South America: Argentina, Brazil, Chile, Uruguay, Paraguay) and industrialised countries (Australia, Canada, Russia) were studied in more detail. Other industrialised nations such as the USA and Switzerland on the other hand could only

1412

be touched upon. Due to the limited time and working capacities available, African countries could not be included in this contribution.[1]

- In an initial round the international organisations were sounded out to see whether VET research was relevant to their work. The results were complemented by a description of the emphasis each organisation placed on VET research. It was not possible within the framework of this project to assess and weigh up the results.

- In the post-war period the independent scientific societies played a leading role as a driving force in the development of comparative educational research. A series of results would seem to indicate, however, that their position has since become much weaker. In order to check out this assessment, reference was made to the international organisations which dominate today, such as the OECD.

- The VET research theme draws no distinction between VET research and comparative VET research. We only indirectly made this distinction in our study. In the country analyses it is VET research which predominates. However, comparative VET research is of more importance for the independent international scientific societies and the international organisations.

1.2 Results of the investigation

The results of the investigation relate to questions (1) to (6) and to the analysis of shortcomings (1) to (6). The amendments explained above and the limitation of the questions which arose as general matters in the course of the study led to attention being focused on the four areas described below.

[1] Information on these and other countries not dealt with in this contribution are found in diverse publications and statistics of international organisations and associations (see below).

1.2.1 Links between national VET research, the respective vocational education concept and the level of development of vocational education

The focus of interest in VET research is vocational education. Vocational education became a point of general interest in the industrial society. The link between encouraging the working population to gain qualifications and economic development is self-evident. That apart, politics looked and continues to look out for vocational education because its further development or specific measures taken in the area of vocational education can help to break down or at least ease tensions on the labour market. By way of an example, CINTERFOR was founded because the South American states involved promised thereby to assist in 'generally raising the level of vocational training, in order to improve the living conditions of workers, and the qualitative and quantitative running of firms' (see Section 2.7 of this contribution).

VET research is thus very closely related to the present and to what happens in practice, and therefore tied in with the broader contexts of vocational education and everyday politics – particularly educational and economic policy. Reference should not be made here to the 'classical' example of Germany – this correlation is also clear in the countries and regions studied. That is why in Australia a *National Centre for Vocational Education Research*, the NCVER, was set up in 1980. The Montevideo based *Centro Interamericano de Investigación y Documentación sobre Formación Profesional*, or CINTERFOR, which is responsible for South America (founded 1960) the METARGEM in Ankara, Turkey, or the *National Centre for Research in Vocational Education* in Berkley/USA also came into being within this context. The most recent example is the *Central Institute for Vocational Education* in the Chinese Education Ministry, which was set up in 1990.

This correlation between the activities of vocational education policy, the development of vocational education and the founding of central national or regional research institutes also extends to research subjects.

Main research subjects in relation to national or regional research institutes in selected countries

Theme	Australia	PR China	Japan	Canada	Russia	Latin America	USA
Systems development		xx		xx	xx	xx	
Labour market research		x	x	x		x	
Curriculum research	xx	xx		x	x	xx	xx
Teaching, methodology, media	xx	xx		xx	x	x	xx
Management, organisational development		x	x		x	x	x
Statistics	xx						
Networks	xx	x		xx	x	xx	xx
Databases	x	x	x			x	x
Information	xx	x	x			xx	xx

These are shaped by the respective political framework conditions and system development. In Japan and the USA 'national vocational education policy' enjoys relatively little room for manoeuvre. It acts within the parameters stipulated by the system. In the case of Japan what this means is that even the research bodies in the Education and Labour Ministries must carry out their duties within the framework of the existing vocational education system. In the USA the NCRVE has to concentrate on assessing the federal programmes and on providing advice, in line with the system. Even in Australia the thrust of the system is dictated by politics. Within the framework of these handicaps the NCVER and other research institutes carry out specific tasks of research and documentation, which assist in shaping the system.

On the other hand, research activities in the People's Republic of China, as in Canada, Russia and Latin America, have taken on systems development as one of their subjects. This is also influenced by prevailing conditions, such as the switch from developing to industrialised country, reforms in vocational education, country in the process of transformation, a relatively unstable and minimally developed system of vocational education, etc.

Independent of how the system is composed, research commonly focused in all of the countries under consideration on curriculum research, teaching, methodology, and media. Apart from actual research work, documentation, networking and information are also important tasks.

1.2.2 International organisations and vocational education or the education concept versus the economic concept?

Previous analysis could give the impression that VET research is shaped nationally, and that it is therefore the political framework conditions, which also determine the reality of the vocational education 'system', which are responsible for the focus of research activities. In relation to the current situation this view is certainly correct. In relation to future developments, however, it might be questioned on a number of fronts.

The developments which remain to be verified for vocational education can briefly be sketched out using the example of comparative education. Here co-operation began between the scientific communities of large industrialised nations, and later on academic or scientific societies and international organi-

1414

sations were founded. Important research priorities included, for example, the comparisons of achievement (IEA) and the development of the International Standard Classification of Education (ISCED).

These independent researchers have since lost their dominant influence. International organisations now predominate, and within this circle those organisations having a sound financial basis can take over many of the roles (see above) which 30 years ago still numbered amongst the original developments of the scientific community.

The OECD has since been working hard to develop the ISCED classifications further. Even the comparisons of achievement which were originally carried out by the IEA have now been take over by the OECD, and educational statistics in Member States and other interesting countries are collated by the OECD at a differentiated level. This information is then used in the OECD's popular publication *Education at a Glance*. The specialised public enjoys referring to this handy indicator system. The problems attaching to the classification of areas and levels of national education and vocational education systems in international comparisons are not unknown. We are referring here to the different assessments made of classification and participation rates for vocational education in industrialised nations. Different national set-ups and system philosophies for vocational education are mentioned as essential reasons for this. Indicator systems – as for example in today's OECD format – should therefore be used only with the necessary critical distance. A broad knowledge of the system is required for interpretation. Here it should be noted that major progress has been made in indicator-related work towards placing data within the context of the respective education and vocational training system. This can be seen, for example, by comparing the 1992 and 1998 editions on vocational education. The most highly criticised approaches (OECD 1992 and 1998) from the past have now been dropped. A differentiated system of indicators with a series of comments attached has taken over from the rather cut and dried classification. Differing interpretations of the various classifications also crop up, but on a basis which presupposes more in-depth knowledge of the respective national systems. In continuation of this argument, the only question which remains to be asked is, actual experts apart, who else is still in a position to correctly digest these commendable publications?

A shift of emphasis seems to be taking place within the international organisations which is also affecting VET research. Until the seventies it was UNESCO – supported by the scientific community – which set the pace, but the ILO, the World Bank group, and the OECD have since taken over the running. Apart from the OECD's activities (see above) the ILO is also running a series of highly promising research projects, e.g. *Evaluation of Training* and *Training Policy Analysis*. For its part, through the UNEVOC, UNESCO is also beefing up its activities in support of VET research.

This range of research activities would seem to allay the fears (von Recum 1997) which are constantly being expressed in research that, as a result of the economic globalisation of trade, production, services and information flows, those who support the theory that because of this globalisation the world should be seen as a company, and that things political will gradually be swallowed up by the functionality of things economic, will see their influence on VET research grow.

1.2.3 Are there any world-wide priorities in VET research?

Identifying world-wide priorities in VET research requires a knowledge of current activities. In this report we looked at various different levels in order to answer this question:

- nation states;
- supra-national and international organisations;
- international scientific societies.

For the reasons mentioned in section 1.1, we limited ourselves to certain countries and, wherever possible, to the central research

bodies. International organisations were also one of our points of focus. It is almost impossible to say anything in respect of international scientific societies because VET research as a cross-sectional science exists to date in only a handful of countries as a scientific and academic discipline, and the results of academic VET research have next to no influence on international discussions. For the nation states and international organisations, on the other hand, different priorities and results can be identified in terms of the tasks to be carried out.

As has already been stated, national VET research, particularly in the central institutes, is directly tied in with systems development and national vocational education policy. It was not possible within the framework of this first study to work on the priorities established for the individual countries – curriculum research as well as teaching, methodology and media – and pick out recurring themes such as module based training, or self-guided learning. In general terms, however, research seems to be targeting more heavily the interdependencies between economic development, the needs of the labour market, and vocational education. Purely school-based vocational education came in for criticism (cf. South American example). Alongside the priorities which are geared to a change of paradigm 'pragmatic' research related to the assessment or development of existing structures clearly represents the main focus of activities.

These research priorities are constantly related to the national level and international organisations, with the addition of information, documentation and networks. It is a focus which occurs particularly in the international organisations. Statistics, classification systems and databases then provide more specific references.

1.2.4 The outcome of VET research (transfer function)

The transfer of national research results into political everyday reality would appear to have been catered for already simply by the setting up of national research institutes and/or the networks created as a consequence. Whether or not vocational education policy actually uses the results of VET research, which tends to be publicly financed, is something which cannot be answered in the framework of this study. It would seem, however, that this dialogue does exist in Australia, the People's Republic of China, Canada, the MERCOSUR area, Russia and the USA.

The question has to be couched in wider terms when applied to international development and the international organisations. Brian Holmes (1974, p.115-132) summed up the situation in respect of the interest in and important practical research aims of *comparative education* (a-d), which are directly transferable to comparative VET research. These four priority areas represent the summary of many years' experience in the area of transfer between policy and research, in particular through practice-related research and policy recommendations.

a) Using the aims, experience, and experiments of other states;

It is impossible to say here whether or not national policy applies the meliorist principle and draws on 'positive' examples from other countries in order to shape national vocational education policy. In the case of the People's Republic of China, which is involved in the framework of co-operation on vocational training with several industrialised nations, the answer is yes. Similar examples of co-operation are also to be seen in the MERCOSUR area.

b) Overcoming the vestiges of ethnocentrism in education questions;

There was little evidence in our study of the attitude according to which ones own national education system is the 'best', and offering it as a 'prime export'. Ever-increasing knowledge about 'other' systems, worldwide co-operation, the international organisations' information systems and international networks are helping to break down ethnocentric stances. On the other hand, international comparisons of achievement (formerly IEA, now OECD) could play a role in reviving

focus (b), since there is a tendency towards (a) or (b) when the results of international comparisons of achievement (TIMSS, PISA) are used, depending on the results in question.

c) Similar problems in different countries;

Unemployment, including unemployment among young people, school-to-work transition, and the answers provided by vocational education consistently crop up as research subjects in the different countries. The link between technological development, globalisation and staff qualification is almost as common. It is not only through the international organisations and the classification systems which they have developed that equivalence in mutual recognition of diplomas is coming ever more to the fore, but also through common markets (e.g. MERCOSUR). The international organisations bring together some of these themes (databases, thematic networks etc.) and thereby also parcel them up ready for policy-makers and educational management. On the other hand, research activities also emerge from the work programmes of national institutes and international organisations. Politics obviously has the upper hand in determining the topics examined.

d) Contribution to the theoretical understanding of training and education and their planned development;

At national level it is pragmatic research rather than theoretical developments and contributions towards future development which tend to dominate. International organisations go someway towards counter-balancing this state of affairs, since classification and indicator systems as well as assessment exercises require a theoretical basis. The ILO and OECD provide plenty of background information (ILO e.g.: Training Policy Reforms, Training Policies and Systems, Evaluation of Training; OECD e.g.: ISCED). Indications concerning possible developments are also raised for discussion within the context of work on education indicators (Education at a Glance). Policy-makers are more interested in the latter.

This section dealt with various aspects involved in the transfer between politics and VET research (thematic focuses of research) and the transfer of results to policies, in full knowledge of the fact that this is an on-going, reciprocal process if channels of communication are open. It was only possible to provide a provisional answer in the framework of this study, by looking at whether networks, advisory bodies etc. which can provide organisational support for transfer, exist within the national research institutes and international organisations.

1.3 Outlook as an analysis of shortcomings and as a proposal for further research

This study presents the initial results of VET research in other European and non- European countries. The aim was to identify national and international institutions and societies and research themes. In making this choice we were taking on a task which was difficult in many respects:

a) Delimitation of research

VET research has to be defined differently and distinguished from other research areas such as educational economics or general research in education, depending on the cultural and systemic context. These problems of delimitation also arise when further distinctions such as research into teaching and learning, assessment research or curriculum research are made. There is also the question of the multi disciplinary and interdisciplinary nature of VET-focused research.

b) Researchers and institutions

Just as it is virtually impossible to define VET research, it is also difficult to identify researchers and institutions. A distinction also has to be drawn between research which is publicly supported and defined, and independent research.

c) The geographical and political area

The third level relates to the link with geography and policy. Besides fields of research

defined by national borders there are also regional bodies and worldwide organisations.

Given this three-way challenge in identifying VET research, the first step was to:

a) Identify the central research bodies at national level.

b) Identify the important regional and world institutions which also carry out VET research.

c) Carry out primary analyses for selected institutions as well as geographical and political areas (South America, Canada, China).

d) Draw on results for other important countries (USA, Russia, Australia, Switzerland, Turkey, Japan) produced by other research projects carried out by the DIPF and cooperating institutes.

e) Tap into and document the activities of international institutions (ILO, OECD, UNESCO, World Bank group) using Internet research and experts in the DIPF.

f) Have the development of the IEA described by 'independent' international scientific associations.

What then had to be done in the second and subsequent stages was:

a) To continue the primary analyses for more countries (USA, Russia, Japan, Switzerland, Turkey, Australia, Taiwan, Republic of Korea, Malaysia, Mexico) with reference to the central research institutes;

b) To carry out a more detailed study of independent research in selected countries (USA, Australia, Switzerland, Japan);

c) To look at whether or not exchange programmes for researchers exist;

d) To take a closer look at the international scientific associations (e.g. World Council) and independent research establishments;

e) To document in detail the activities of the international organisations (ILO, OECD, etc.) – in depth in respect of certain selected themes (e.g. classification systems) – and to carry out primary analyses;

f) To study existing networks, documentation centres, databases etc. in terms of their input to VET research and to create links with CEDEFOP's 'training village' (*www.trainingvillage.gr*).

g) To document the research results in terms of where the emphases lie, and to bring out their relation to vocational training policy (transfer).

2. Countries

The addresses of the institutions can be found in the Annex.

2.1 Australia, by Uwe Lauterbach and Ute Lanzendorf*

2.1.1 Introduction to the education and vocational training system

Australia is a federal state in which powers are shared between the central or Commonwealth government and the eight States and Territories. Under the 1901 constitution, the responsibility for education falls largely to the State and Territory governments but with significant funding and policy guidance from the Commonwealth.

The federal Department of Education, Training and Youth Affairs ensures national consistency in policy terms and funds national programs in the education system. Since the 1960s, universities have been completely funded by the Commonwealth and are part of a unified national system for higher education. However, schools and vocational education and training (VET) are controlled by the States and Territories. The VET system in each state is based on the publicly funded Technical and Further Education (TAFE) colleges and, increasingly, a range of private training providers. About 80 % of vocational education and training is delivered through the public system. At the national level the funding and development of VET is co-

* We acknowledge the verification and substantial revision of the original text by A. Smith (NCVER).

ordinated by a joint federal-state body, the Australian National Training Authority (ANTA).

Since the early 1990s the Australian VET system has undergone a significant process of reform driven by Australian governments' desire to create a more unified national system for vocational education. This process has involved the implementation of competency-based training for VET programs, the creation of a national system of vocational qualifications (the Australian Qualifications Framework), measures to open up the training market to private providers and the introduction of New Apprenticeships to provide structured entry-level training in industries that have traditionally not operated within the apprenticeship system. During this period, the VET system has expanded considerably with enrolments in VET climbing from 1 million in 1992 to over 1.6 million (12 % of the Australian population) in 1999.

2.1.2 Research in Vocational Education and Training

The reforms to the VET system have been accompanied by a significant expansion of research in vocational education and training in Australia. Prior to this period, the volume of research in the training and development field was low and projects fragmented. Few statistics were collected and there was no basis on which to judge the relative performance of the Australian public training system and Australian organisations in their provision of training. This situation has changed sharply with both Commonwealth and State governments increasing their expenditure on VET research dramatically.

Although the State Training Authorities commission research to underpin their policy development in vocational education, the main source of research funding is the Commonwealth government. Much of this expenditure is managed by the Australian National Training Authority. ANTA funds the collection of a wide variety of statistics on VET and funds a large number of research projects and research centres. Much of this work is managed by the principal Australian training research body, the National Centre for Vocational Education Research (NCVER) based in Adelaide.

The NCVER was established in 1981. Funded by governments but operating as an independent company, NCVER collects and publishes a wide variety of statistical information on the Australian VET system.** NCVER also conducts research projects in vocational education and funds a large national program of VET research carried out by other research organisations in the country. In order to guide the national research program, NCVER has produced a National VET Research Strategy in conjunction with the users of VET research (primarily federal and state training authorities) and the training research community. The first research strategy was published in 1997 and covers the period 1997-2000. The first strategy identified six broad areas for training research. These include:

1. economic and social implications of VET;
2. employment and the workforce;
3. pathways from school to work;
4. outcomes of the VET sector;
5. the quality of the provision of VET.

ANTA also funds four national Key Research Centres in VET directly. These centres are the Research Centre in Vocational Education and Training at the University of Technology in Sydney (focused on vocational learning), the Centre for the Economics of Education and Training jointly sponsored by Monash University and the Australian Council for Education Research (focused on the economics of VET), the Centre for Research and Learning in Regional Australia at the University of Tasmania (focused on rural/regional VET issues) and the Centre for Post-compulsory education and training at Melbourne University and the Royal Melbourne Institute of Technology (focused on the economic and cultural

** More information: www.ncver.edu.au. NCVER has also established an international database VOCED to find the latest technical and VET research information: www.ncver.edu.au/voced.htm.

benefits of VET). These centres represent an attempt to build up a critical mass of researchers in the key areas of VET policy making. Apart from the three national Key Research Centres, there are also a number of smaller training research centres and groups that have emerged in recent years in response to the increase in training research funding since 1990. These centres include the Group for Research in Employment and Training at Charles Sturt University, the Centre for Research in Equity, Education and Work at the University of South Australia and the Centre for Learning and Work Research at Griffith University.

2.1.3 Future issues affecting the VET sector.

The explosion in training research in Australia since 1990 is closely linked to the training reforms that have taken place during that period. State and federal governments in Australia are as keen to pursue the goal of lowering unacceptably high levels of unemployment, particularly youth unemployment, as governments in all the developed nations. Training is viewed by both sides of politics as an acceptable supply side solution to these problems in the absence of a consensus on more direct means of stimulating the economy. Research provides a tool for evaluating the impact of policy and devising further reforms to the system.

2.2 People's Republic of China, by Josef Rützel and Stefan Ziehm

2.2.1 Introduction to the Chinese education and vocational education system

Since the early eighties the political leadership in the People's Republic of China has carried out comprehensive reforms. The transition from a centrally managed economy to a 'socialist market economy' has brought about change in virtually all the socially relevant areas. More attention is being paid to the (vocational) education system in particular. The 1986 Compulsory Schooling Act provided for nine years of compulsory schooling in the People's Republic of China. The Act aims to ensure nationwide, uniform, free school education and raise the general level of education. Educational development hinges on the compulsory 6+3+3 school system (primary, secondary I and II), although there are obvious regional differences between the eastern provinces and those in the north and west. There are major problems in implementing this compulsory schooling in the poorer provinces because of the lack of resources.

The vocational education system is also facing completely new challenges. Although there is no general compulsion to undergo vocational education, the government is clearly striving to upgrade it. During the Cultural Revolution (1966-76), general education was expounded as being the best vocational qualification, many vocational schools were shut down, and thus there was virtually no systematic provision of vocational education. A whole generation was therefore deprived of adequate formal vocational qualifications. The only qualifying provision of a practical nature was a form of apprenticeship. In the informal sector in particular the handing down of knowledge acquired through experience continues to play an important role even today. Small workshops and traders employ 'apprentices' who are instructed by experienced workers rather than undergoing any structured form of training.

Since the early eighties high priority has been given to extending and improving the quality of vocational education. The reforms and restructuring affect the vocational education system as a whole, including types of training preparing for a specific profession, those providing vocational qualifications, higher vocational education and further vocational education. The institutions within the vocational education system, the curricula, teaching and learning methods, responsibilities, funding, and the legal bases are all undergoing a shake-up. It should be noted that the efforts to reform the vocational education system have obviously led to improvements, although there are still marked differences in the provinces. Socially speaking, an academic education is still the 'one best way'. Only when

1420

this is not possible because of restrictive selection procedures in the schools of further education and universities is a vocational training sought.

Basic vocational education takes place at secondary I level in the vocational secondary schools (lower grade). At secondary II level vocational education is provided by the technical secondary schools, schools for skilled workers and vocational secondary schools (upper grade).

- The technical secondary schools are full-time and accept secondary school leavers. Training lasts between three and four years. In terms of content it is theoretical rather than practical subjects which dominate, so that when they come out of this type of school students temporarily find it hard to find a suitable job on the labour market because their training was so far removed from practice.

- The schools for skilled workers train medium-skilled workers, although they vary widely at regional, sectoral and branch level because of differences in resources, non-standardised qualification of trainers, and the absence of standards. Training lasts three years and is split up into theoretical and practical modules. In most cases the skilled workers' schools are funded by businesses and enterprises.

- The vocational secondary schools (upper grade) were only reconstructed during the period of reform (from 1981). They tend to be full-time. Admission depends on passing an entrance exam and having completed upper school education as a minimum. In general training lasts 3 years, although there are also shorter courses lasting 1-2 years. Vocational practice is not a requirement.

Besides these possibilities for gaining a qualification, a basic qualification was introduced in the form of minimum training. Short courses are intended to provide a minimum level of basic vocational education for all workers, including those who are already in active working life.

2.2.2 VET research

In the People's Republic of China – as in other countries – VET research goes hand in hand with economic, industrial and social development. Chinese vocational education experts date the start of VET research as identical with the creation of the industrial schools in the late 19th /early 20th Century. The upturn in industry sparked a need for qualified workers who had acquired some sort of organised vocational qualification. This need for vocational education led to a need for VET research. In 1916 Yanpei Huang founded the first research institute for vocational education within Jiangsu Province's education committee. In May 1917, along with another 40 well-known scientists, he founded the Chinese Association for Vocational Education. Its aim was to develop the personality through vocational education, to prepare for employment, increase productivity through vocational education and to popularise vocational education. This association was the first ever non-state vocational education research organisation and is still influential today. Its activities led to general and technical training being separated at secondary school upper grade, and to the introduction of systematic forms of school-based vocational education. More importantly, however, the association established the theoretical basis, key ideas and principles for vocational education and carried out research into subject classification, teaching programmes, text books, practical teaching and teacher training. From 1949 to the start of the Cultural Revolution in 1966, VET research supported in particular the development of the technical secondary schools and the skilled workers schools.

The reform of vocational education which was carried out in the late 70s sparked a major increase in the demand for VET research. From Xianxin Tang's report – which provides the essence of the overview of the VET research situation – it can be seen that VET research is intended to work out the scientific bases for macro-steering and needs planning, concept development, reform strategies and measures. Post 1978, special research institutes for vocational education were set up to meet the need for research. Previously,

research into vocational education policy, the vocational education system, as well as the teaching and provision of vocational education, lay in the hands of the competent commissions, ministries and departments, vocational schools and teachers. Nowadays there are independent research institutes at state level, in the provinces, towns and autonomous areas as well as in the technical colleges, colleges and universities. Vocational education is becoming a discipline in its own right within the field of educational science. The 6th five-year plan only mentioned one vocational education project, but by the 7th the figure had already risen to 11. The figure continued to rise, reaching 42 by the 9th five-year plan. Half of these projects are based in the education ministry.

Some of the most important research institutions at state level are the Ministry of Education's *Central Institute for Vocational Training* (CIVT), the *Occupational Skill and Testing Authority* (OSTA), which comes under the Ministry for Labour, various vocational education societies and associations, as well as research bodies in branch ministries and commissions. The CIVT, which was set up in 1990, is a national research institute whose research centres on services with a view to the reform and further development of vocational education. The focus lies with applied research in vocational education policy, financing, job classification, teaching/learning research, media development and teacher training. The CIVT is also responsible for documentation, information and transfer of knowledge. Like the regional institutes (RIVTs) in Liaoning and Shanghai which will be mentioned later, the CIVT is also a project in development co-operation with the People's Republic of China. Nothing more will be said about this here. The most important research work of the OSTA, which is also application oriented, is the development of occupational, qualification and testing standards and qualification of the specialised personnel required.

Some of the national societies and associations for vocational training are:

- The *Chinese Association for Vocational Education*, founded in 1917, which has already been mentioned, and to which many professional and part-time researchers belong. Apart from promoting vocational education and VET research it also carries out research projects for the state.

- The *Society for Vocational Education* which was founded in 1990. This is a national, public organisation for scientific research, run by the Ministry of Education. Alongside its advisory role and the job of diffusing information, the main responsibility of the society is to carry out scientific research into vocational education, which is done by 10 specialist commissions with only 73 members. The nature of the commissions – e.g. commissions for technical secondary schools, for vocational education in cities, for nationality training, for scientific research – gives some indication of what research actually means, the thrust of research questions and indirectly also the working methods. Apart from the Commission for Scientific Research all the commissions are formed with clear-cut tasks related to individual elements or types of school in the vocational education system, regional or sectoral aspects or specific target groups. This in turn makes the research questions very specific, and they tend primarily also to aim at achieving political objectives.

- The *Chinese Association of Regional Institutes at Provincial Level*. All the provincial regional institutes belong to it. It was founded in 1997 and primarily coordinates, orchestrates and defines supra-regional and regional VET research involving the CIVT. The fields of research and issues examined cover the whole spectrum of vocational education, according to the role of the respective regional institutes.

- The *Association of Research Institutions for Vocational Education* which came into being in 1982 has brought together researchers and vocational trainers from the large and medium-sized cities. Its main task lies in the theory and practice of providing vocational education and its methods. Its work concentrates on solving specific problems of teaching the individual subjects,

1422

e.g. electronics, machine engineering, computing, beauty and hairdressing.

At present most of the branch ministries and commissions still have their own vocational education research bodies. Following the reorganisation of the ministries and commissions and the principle of 'one task, one responsibility', it is likely that their structure will also change. Examples of these research bodies are the *National Association for Research into Agricultural Vocational Education*, the *Research Association for Technical Secondary School Training in Transport*, the *Research Department for Technical Secondary School Training in Metal-working*, or the *Research Centre for Vocational Education* in the Ministry for the Energy Industry. These bodies are supported and run by the branch ministries. They differ in terms of their type of organisation and tend to deal with highly specific question areas. Some of them are attached to technical secondary schools or specialised schools as research departments. They are largely responsible for supporting reforms and solving problems in practice.

At provincial level, vocational education research institutes have progressively been set up since 1985. There are at present 23 regional institutes at provincial level which employ around 400 researchers. The majority of these research bodies come directly under the education commissions of the provinces or cities. They are responsible for carrying out applied research, and providing advice and services to support regionally adapted reform. This includes research into vocational education development strategies, organisation of the vocational education system, financing, legislation, curricular development, teaching/learning processes, organisational development and teacher training.

Apart from the regional institutes for vocational education, institutes or departments for vocational education have also been set up within the provincial institutes for educational science. These institutes focus mainly on scientific research. Then there is also a third type of newly established vocational education (research) institute at provincial level within the colleges and universities. These deal essentially with teacher training, research into teaching/learning processes and studying the principles of vocational training.

At first sight this overview of the research bodies and their roles reveals a broadly institutionalised and established vocational education landscape which varies in terms of its content. It should be noted, however, that there are only a relatively limited number of people working in the institutions. Although noticeable progress has been made in development and expansion, even Chinese experts feel that staff resources are far from sufficient when compared with the quantitative and qualitative requirements of vocational education. On the other hand, however, great store is laid by VET researchers' qualifications, since many of them hold high level diplomas. It is similarly felt that the theoretical principles and research methods are not broad or deep enough yet either. A distinction is drawn between basic and applied research. However, as yet there are no systematically established theories of vocational education. Theoretical education tends to take a rather philosophical stance, and only gradually is a social science oriented type of VET research starting to emerge. There has been a considerable increase in the number of publications on basic research which cover a broad spectrum of subjects, and they tend to resemble standard reference works. Theoretical reflections and theory-shaping aspects are rare. Moreover, the links between research into principles and the shaping of theory and applied research is a somewhat hit-and-miss affair.

Applied research is the most highly valued. Virtually all the institutions mentioned carry out applied research only. Even within the academies and university institutes applied research takes place alongside basic research. In his report Tang mentions four priority areas in applied VET research:

- *Vocational education and social and economic development*. This includes research into the strategic importance of vocational education in the development of China, the regions, macro planning, systems development, standardisation and the funding

structure, as well as legislation governing vocational education and the financing of vocational education.

- *Curriculum development and teaching processes.* Research work is conducted concerning pupils' moral education, educational aims and models, course development, tailoring of subject areas, teaching content, teaching methods and the assessment or evaluation of the quality of learning and the learning process. Model tests are also included in this research work, e.g. on the introduction of the dual system, competency based education and the ILO's MES system. According to Chinese experts, the initial impetus for theoretical education stemmed from this research work.

- *Educational management and organisational development.* These studies look at management systems, organisational structure and development, the distribution of competences and evaluation. Such studies mainly present successful models and reports from experience. They provided important impetus for practical reforms although their theoretical basis is deemed inadequate.

- *Development of information and support systems.* A great deal of attention has been paid to the systematic development and expansion of information networks on vocational education through the Internet and networked communication structures, databases, e.g. on subject-related research work, legal bases, text books etc. Research in such areas tends to be the exception, however.

It is not only in the area of educational management, organisational development and the development of information and communication systems that there appears to be a lack of a theoretical basis for applied research. This is also true in other areas. On the one hand, the issues examined appear to be too restrictive and to relate the direct implementation of policy matters, whilst on the other hand the transfer from the theoretical to the applied level has still not been ensured. Furthermore, applied research provides very little impetus for theoretical training. There is not much differentiation in terms of the research design, tools of investigation and evaluation procedures in applied research. Evaluation research, which could provide the corner stone for both the reform process and theoretical education is not very highly developed either.

2.3 Japan, by Walter Georg

2.3.1 Japanese Institute of Labour

Since 1989 labour market research, occupational research and VET research have come under the *Japanese Institute of Labour* [Nihon Rôdô Kenkyû Kikô], a body within the Ministry for Labour. The new institute was created from the merger of its predecessor, Nihon Rôdô Kyôkai, founded in 1958, whose research programme initially concentrated primarily on employer-worker relations, and the *National Institute of Employment and Vocational Research* [Koyô Shokugyô Sôgô Kenkyûsho]. The latter was set up in 1969 under the aegis of the EPC and carried out labour market and occupational research. To a certain (limited) extent the new *Japanese Institute of Labour* was also charged with responsibility for VET research, whilst at the same time there was a corresponding cut-back in the Institute for Vocational Education's research programme. The Institute carries out extensive studies of its own, has a broad-ranging database covering the field of labour, labour market and occupational research, and supports the governments in the prefectures within the framework of regional labour market policy. In many respects the institute's activities can be compared with those of the German Institute for Employment Research within the Federal Employment Services (*Institut für Arbeitsmarkt- und Berufsforschung [IAB] der Bundesanstalt für Arbeit*) in Nuremberg.

The Japanese Institute of Labour's most important fields of research are as follows:

- Industrial relations and labour law (employer-worker relations, trade union law, legislation and jurisdiction in the field of work and employment);

1424

- Economic aspects of work (wage increases, employment figures, working hours, female labour);
- Vocational and employment structure (unemployment, mobility and change of company, technological change and changes on the labour market);
- Labour market and forms of employment (worker supply and demand, types of employment conditions/contracts);
- Working life (occupational biographies, the work and everyday life of employees);
- Staff management (company employment policy, wage system, human relations within the company);
- Vocational education (developing work skills, in-company training and further training);
- Occupational guidance and work conduct (individual criteria for selecting an occupation, assessment and evaluation methods for aptitude and inclination);
- Careers advice and information (developing occupational conduct, activity analysis, effects of placement, careers information and advice).

2.3.2 Polytechnic University

The top institute amongst the vocational training bodies which come under the Ministry for Labour is the Shokugyô kunren daigakkô (*Institute of Vocational Education*) which was founded in 1961 on the basis of the 1958 Vocational Education Act. It has since been renamed Shokugyô nôryoku kaihatsu daigakkô/Polytechnic University and comes under the aegis of the Ministry for Labour. Until 1989 it worked in the most important fields of research in vocational education, but now concentrates its activities on staff training for vocational education and on research into teaching and learning e.g. research and development work (developing curricula, audiovisual teaching materials, text books), and on distance learning courses.

2.3.3 National Institute for Educational Research (Kokuritsu kyôiku kenkyûjo-NIER)

The NIER was set up in 1949 as a body of the Ministry of Education, Science, Sports and Culture (Japanese abbreviation: *Monbushô*).

The main aims of the institute are to carry out basic and applied research in the educational field as well as to provide a range of information and advisory services. In terms of content and organisation the institute comprises ten main departments (e.g. life-long learning, scientific education, educational management etc.). Vocational education is dealt with by part of the Department for Educational Content (the Section for Vocational Education).

2.4 Canada, by Philipp Grollmann[2]

2.4.1 Current priorities of VET research in Canada

This overview provides a brief run-down of the current priorities and institutions for VET research in Canada. It presents not only the 'academic' research activities, but also certain projects and institutions involved in applied research, which are of importance to Canadian vocational education. In the interests of brevity, only a brief outline can be presented here, but the addresses and references to literature which are listed in the annex should help the interested reader to build up a clearer picture.

2.4.2 DACUM and co-operation in international vocational education

First of all, this is a sort of classic in Canadian VET research and in certain respects representative of it; it seems to be particularly characterised by applied research.

[2] The basic information for this overview was collected during a research trip to Canada in 1998. The objectives of this report were funded by the Federal Ministry for Education, Science, Research and Technology (Reference: G 9013.007)

Because Canada is a country of immigration to begin with, and also because it is involved in numerous development projects, international VET research and co-operation is a not-unimportant pillar of Canadian VET research. An important player in this respect is the *Canadian International Development Agency* – CIDA – which regularly issues contracts to Canadian VET researchers.

2.4.3 Vocational education in Canada and VET research in the universities and research institutes

As in other industrialised nations, a large part of the development and present state of VET research can best be seen and understood in relation to the problems and institutional structures in the field of the subject of vocational education itself.

Certain general social trends and theme-method related considerations which also figure on the agenda of other countries are also apparent.

Vocational education in Canada is provided primarily by the *Community Colleges*. These are post-secondary institutions which appeal to a wide range of individuals through the range of courses and subjects which they offer. Evening top-up qualification courses, co-operative education and vocational education in full-time school as well as technical university style training courses are similarly organised by these institutions. In the secondary sector (pre-) vocational education and training is provided by the senior high schools.

Thus any research which aims to analyse the effects and development lines of these institutions is to some extent always a form of VET research.

This type of research is largely carried out in the Canadian universities, particularly by the faculties involved with teacher training. Apart from the usual teaching and research activities, bigger projects are on occasion also carried out in the universities, as for example the networks for VET research which are referred to later on. An example of a more extensive research project would be the two year 'Secondary Schools Project' which was set up by the *Canadian Educational Association* (CEA) and supported by the HRDC (Gaskell 1995).

Depending on their size, some of the Community Colleges also have their own research and evaluation departments. They carry out evaluation research in particular, with the aim of helping the colleges to better tailor their programmes to students' needs, or to recognise factors influencing success or failure. Since drop-out rates are at their highest in the first year of the Community Colleges this type of research tends to trade under the name 'first year experience'.

Software developed specially for this purpose by the evaluation department of Humber College, Toronto, can be quoted here as an example. COMPAS (College Outcomes Management and Performance Analysis System) can be used by college staff to assess what they themselves are offering, whilst also providing an information base for internal and external decision-takers (cf. Dietsche 1998).

2.4.4 School-to-work-transition research and research by Human Resources Development Canada (HRDC)

Because of the relatively high school drop-out rates by international standards, and the range of alternatives as regards both content and institutions in the vocational education field, the role of school-to-work-transition research is as important as in other countries faced with this type of vocational education policy issue. Such research usually tends to have a sociological or socio-psychological slant. Once again, a considerable amount of it is done in the relevant university faculties.

In many cases this research is governed by contracts which are issued by the competent Federal Ministry for Labour, Education and Training. *Human Resources Development Canada* evolved from the former Ministry of Employment (*Immigration and Employment Canada*), and acts as a major financier of research in relevant fields, either indirectly or through subordinate authorities. As far as educational matters are concerned, the Ministry enjoys only very limited decision-taking

powers, since educational questions are largely regulated at state level in Canada.

Smaller contracts, e.g. in the field of curriculum development, are therefore also issued by the education ministries and the ministries for vocational education and further training in the relevant provinces (cf. e.g. Wilson).

The renaming of the former Ministry of Employment as the HRDC and the identification of new fields of activity should be seen in relation to the general drive towards change and reform of vocational education and further training in Canada, which either directly or indirectly has brought a considerable amount of research activity in its wake. Since the late eighties there has been a broad-ranging and quite well funded initiative to set up *Sector Councils*, i.e. branch organisations which were brought into being through the initial injection of some very generous funding. There is also room for numerous research and development activities within the framework of these activities.

Thus *skill standards* which underlie the development of vocational qualifications and curricula are often established by the relevant Sector Councils or by private consulting firms contacted by them. The basis for creating these skill standards is provided by sectoral studies which look at the general requirements for educational and staff development in a given sector (cf. e.g. Textiles Human Resources Council 1996). These are then followed by *occupational analyses*, in which occupational activity within a given occupational field is 'broken down'. This procedure is also applied when occupational profiles are drawn up for apprenticeships (cf. HRDC 1995 and e.g. HRDC 1998).

HRDC also has its own research department, the *applied research branch*, as well as an evaluation department. The former draws up at four-yearly intervals, for example – sometimes in co-operation with Statistics Canada – transition and location studies on secondary school leavers, and Community College and university graduates (The Class of 1986, The Class of 1990 etc.; EIC 1991, HRDC 1996), whereas the latter monitors and follows up model projects and vocational education policy initiatives in terms of their effectiveness.

In parallel to the reform activities just mentioned, HRDC also amended the entire Canadian occupational classification, which traditionally bore a close resemblance to the American Dictionary of Occupational Titles in terms of its fragmentation and specialisation, but now arranges broader fields of activity horizontally and vertically within a type of occupational field structure (cf. HRDC 1996).

In terms of their scientific quality, projects carried out by HRDC or consulting agencies are not necessarily inferior to university ones. There are on-going communication structures between HRDC and the universities, e.g. through experts being asked to draw up reports (cf. e.g. Krahn 1996).

2.4.5 Political and industrial-sociological labour market research into vocational education and further training

The discussions and measures pertaining to the *Sector Councils* and *Local Training Boards* go hand in hand with lively scientific publishing activity: over the last two years two compilations have come out on the subject (cf. Gunderson, Sharpe 1998; Haddow, Sharpe 1997). This research should be seen within the field of political science and industrial sociology. A similar perspective is taken by the *Canadian Policy Research Networks* on vocational education questions in their last report, which deals in more concrete terms with essential questions related to qualifications in the face of the challenges raised by the future world of work. This is a type of foundation which is supported by donations from sponsors, sets up expert commissions on other areas of public life, and drafts and publishes reports (cf. Betcherman, McMullen, Davidman 1998).

2.4.6 Research networks in the field of vocational education and further training

Over recent years the greater esteem in which vocational education and further training is

held has had a knock-on effect in the field of basic research: thus, following a major call for tender, the *Social Science and Humanities Research Council* (SSHRC) is supporting four major Strategic Research Networks in Education and Training, which fall within the VET research area. These networks also co-operate amongst themselves and organise calls for tender for researchers with suitable projects who can apply for small-scale financing. Co-operation with vocational education practice also represents an important aspect in the work of these networks.

The five networks have the following titles, which also indicate what they deal with:

- NALL: Lifelong Linking of Formal, Non-formal and Informal Learning: Current Practices, Social Barriers and New Approaches
- Training Matters: Education and Training for New Forms of Work: Canadian Experience and International Perspectives
- EvNet: Network for the Evaluation of Education and Training Technologies
- The Western Research Network on Education and Training: The Link Between Educational Provision, Processes and Outcomes
- Relations formation emploi: analyse des modes de collaboration entre les partenaires de la formation, des effets sur leur organisation et des résultats pour les apprenants *(Training-employment relations: analysis of methods of cooperation between the players in the training world, the impact on their organisation and results for students)*

A further, relatively new network in the VET research field is the UNEVOC Canada Network, which was founded in close co-operation with UNESCO's UNEVOC project and is supported by it.

The setting up of all of these six networks should also be seen in relation to the constant demands for a National Centre for Research on Vocational Education and Training, NCRVE, along the lines of the American model.

2.5 Russian Federation, by Friedrich Kuebarth

2.5.1 VET research

In Russia there is, first of all, a tradition of what is known as *occupational education*, which sees itself as a scientific discipline and which as a branch of education fulfilled the well-known functions of socialist educational doctrine in the field of vocational education. The theoretical principles were largely laid by the former Academy of Educational Sciences in the USSR (nowadays the Russian Education Academy). Its scope was and in fact still is predominantly the training and further training of teaching staff for the vocational training sector.

Secondly, a form of VET research was also developed which initially concentrated on the development of teaching methods within the scope of the framework plans for the vocational schools, whilst also becoming increasingly involved with matters of policy advice. It is these functions which have come particularly to the fore since the switch in system in the early 90s, in the course of which institutional classifications changed on several occasions.

The important thing to note in this context is that VET research was and continues to be predominantly sector-based, i.e. it is tied in with the various levels of vocational education in Russia which evolved historically, each with its own respective administrative 'superstructure'. Thus even today there are still different research structures for the levels of 'basic vocational education' (formerly: occupational-technical training, PTUs), and 'middle-grade vocational education' (middle grade technical secondary schools, schools of technology, and more recently also colleges). ('Higher vocational education' i.e. the higher educational or tertiary level has its own research and development structures which will not be considered here).

Research and development structures, particularly in the area of curriculum development, are to some extent also to be found within specialised departments which oversee vocational training institutions (e.g. agriculture). Corre-

sponding practice-oriented centres were more seriously built up, particularly by the regions, which sometimes also call on available institutions for the further training of teachers to develop teaching materials and for (vocational) educational development planning.

Recently the state labour administration has also become more deeply involved in vocational and VET research.

Institutes of higher education have only a minor role to play in VET research. This also applies to the teacher training universities/colleges which train teachers for general schools and subjects. The majority of staff for vocational schools or occupation-related subjects are trained at two specialised universities (Jekaterinburg and recently Nishnij Nowgorod) as well as at several technical universities/colleges, and it is only in this area that there is any occupational education/VET research worth mentioning.

Projects and subjects related to the development of vocational education and vocational education policy are also worked on in other research contexts, such as economic (including the economics of education) and sociological research (e.g. youth sociology), mainly within the respective institutes of the Russian Academy of Science.

2.5.2 Research structures

Mainstream Russian VET research is conducted within three structures which are separate in organisational terms. Whilst competing with each other they are also interlinked by the networking of both staff and subject matter.

a) The traditional 'leading institution' in Russian educational research is the *Russian Academy of Education* (RAO). It has the following affiliates to its department for 'basic vocational education' (literally):

- The Institute for Technical Occupational Education in St. Petersburg;
- The Institute for Technical Secondary Education in Kasan;
- The Institute for Adult Education in St. Petersburg;
- The Centre for Problems related to Lifelong Learning in Moscow.

The department also promotes regional priorities within the framework of the RAO's regionalised structure. The activities of the Siberian section deserve particular mention. The Academy is formally requesting that it should be responsible for the nationwide co-ordination of VET research, but its influence would essentially only extend to the institutions mentioned. (It is additionally responsible for co-ordinating research assistantships). The work of the research institutes – whose research plans are determined on an annual basis – centres rather loosely on general programme topics such as 'the development prospects of vocational education'.

b) The Ministry for General and Vocational Education supports:

- The Institute for the Development of Vocational Training (IRPO) in Moscow, and
- The Scientific Method Centre for Secondary Technical Education, Moscow.

Whilst the latter concentrates mainly on developing curricula for the technical secondary school level, over recent years and despite the disastrous framework conditions and also political resistance, the IRPO has managed to extend and consolidate its position as the central body for VET research. Its work involves:

- Basic research related to educational policy and concepts, particularly in terms of policy advice;
- Curricular development work: drawing up the register of training professions, developing 'standards' and methodological training bases, text book development, quality assurance methods, new technologies;
- The further training of teaching staff;
- Scientific research assistantships;

- International co-operation (esp. with the BIBB);
- Publications.

c) The vocational teacher-training universities (see above) which also come under the Ministry for Education train 'engineering' teaching staff (with the emphasis on engineering and the corresponding technical production occupations) as well as experts for specialist practical training in the vocational schools. Their research priorities are determined by these roles, and therefore tend to stress technical teaching methods. The Occupational Training University of the Urals is also strong in occupational psychology and occupational sociology, whilst new university in Nisnij Nowgorod has no clear-cut profile as yet.

2.5.3 Research associations

When the system started to change numerous associations and networks came in.to being which have in common the fact that they are in reasonably close proximity to the 'official' structures of the Ministry. From the point of view of VET training the first bodies to be noted are:

- The *Academy for Vocational Education* (not to be confused in either organisational or functional terms with the RAO – see above!) which is close to the IRPO in staff terms and is striving to bring together the broad field of research and practice (particularly school heads and regional managers) and to gradually build bridges with the social partners. At the same time, the Academy sees itself as a services company in the publications and conferences field (it produces amongst other things one of the two available specialist revues).
- The *'Vocational Education' Association* which was born of the RAO and also provides specialist services. Amongst other things it has produced a new standard textbook 'Occupational Education' (1997) as well as an 'Encyclopaedia of Vocational Education' (1998).
- Another organisation known by the acronym *'Rosproftech'* (Russian technical vocational education) is made up principally of workers in the field and is closely linked to the Ministry.

2.6 Switzerland, by Ulrich Arnswald and Daniela Heipel

Vocational education – insofar as it is regulated by the BBG (Vocational Education Act) – falls within the scope of activities of the *Bundesamt für Berufsbildung und Techno*[2] The basic information for this overview was collected during a research trip to Canada in 1998. The objectives of this report were funded by the Federal Ministry for Education, Science, Research and Technology (Reference: G 9013.007)
logie (BBT) (Federal Office for for Vocational Education and Technology), which is also in charge of vocational education in agriculture. It comes under the Swiss Department for the National Economy.

The *Schweizerische Institut für Berufspädagogik* (Swiss Institute for Occupational Education) (SIBP) – which is also a department of the BBT- deals first and foremost with the training and further training of teachers at vocational education schools.

In the whole of Switzerland there are some 125 mostly small-scale institutions working in the field of educational research and school development. The Swiss *Co-ordinating Unit for Educational Research* (SKBF) (Entfelderstr. 61 in 5000 Aarau, Tel.: + 41 (0)62/8352390) promotes co-operation between educational research, practice, administration and policy.

Within educational research, the SKBF coordinates between the various disciplines and institutions, as well as between the university institutions and teaching sections of the Education Department.

It is linked to the *Schweizerische Gesellschaft für Bildungsforschung* (SGBF) (Swiss Society for Educational Research). This body pursues its aims through the organisation of annual congresses, standing working parties, and through publication of the review *'Bildungs-*

forschung und Bildungspraxis' (Educational Research and Practice), as well as the scientific series 'Exploration'. At the present moment the co-ordinating unit is running three networks, which promote contact between researchers working in the same field, i.e. in the areas of assessment, secondary level I, and research into adult education. The SKFB is also linked to the *Schweizerische Gesellschaft für angewandte Berufsbildungforschung* (Swiss Society for Applied Vocational Education Research), which was founded in 1987.

The SKFB provides information about research and development projects within the Swiss education system, about development trends in education and about the institutions for educational research and school development. A register which comes out every 4 to 5 years lists the institutions for educational research and school development, indicating the main focuses of their work. An index of persons and subjects means that targeted searches for information and contact persons can be carried out on specific questions.

Publications on vocational education:

1. Blätter. Review of vocational education. Journal produced by the umbrella organisation BCH Berufsbildung Schweiz. Published 5408 Ennetbaden. Ten editions yearly, in three languages.

2. Panorama. Review of the Swiss Society for Applied VET research. Published 8005 Zurich, six times per year.

2.7 Latin America, focus South America, by Daniela Heipel and Ute Lanzendorf

2.7.1 Introduction to the vocational education systems in Brazil, Argentina and Uruguay

Economic, political and social integration in South America came a step closer with the creation of the *Mercado Común del Sur* or MERCOSUR (Common Market of the South) in 1991. The MERCOSUR brings together a population of more than 190 million, living in an area bigger than the whole of the European continent. The biggest country in South America and also its strongest in economic terms, Brazil covers an area of 8.5 million square kilometres and has 155 million inhabitants. Argentina is the second biggest member of MERCOSUR with 33 million inhabitants, and over recent years has had the fastest economic growth. Paraguay and Uruguay are the smaller partners in every sense. With a gross national product of 8.1 million US$, Paraguay is the weakest member state in economic terms (von Baratta 1997, p. 567). Uruguay, the country with the smallest population – 3.1million – is an important financial centre in the MERCOSUR, and in 1995 had a GNP of 16.4 million US$.

A description of the vocational training system in the three countries selected here (Brazil, Argentina, Uruguay) – which differ in terms of their economy, size and population – as a background to the details on VET research in the respective countries can provide no more than a brief introduction at this point.

In ***Brazil***, co-ordination of the various public and private providers of vocational education which since 1976 have been brought together under the *Sistema Nacional de Formação de Mão-de-Obra*, SNFMO (National Manpower Training System), is the responsibility of the Conselho Federal de Mão-de-Obra (Federal Manpower Council). Most vocational education is organised on a private basis through several sector-related and decentrally organised vocational training institutions which are financed through a form of income tax – the *Serviçio Nacional de Aprendizagem Industrial* (SENAI) (National Service for Industrial Training), the *Serviçio Nacional de Aprendizagem* Comerzial (SENAC) (National Service for Commercial Training), and the *Serviçio Nacional de Formação Professional Rural* (SENAR) (National Service for Agricultural Qualification). Teaching takes place in training centres which integrate company training with occupational adjustment. The SENAI, the oldest of the three pillars of the Brazilian training system, was founded in 1943 along the lines of the training system which existed in the railway company. It was set up as an independent institution, financed and managed by the companies in that sector

(industry in the case of the SENAI). In 1946 the SENAC was founded, and 30 years later the SENAR started its work. The training activities of the various institutions are strongly coloured by the respective sector of the economy. Thus the SENAI is responsible for industrial training, the SENAC for commercial training, and the SENAR for agricultural training. Despite sharing a similar organisational structure, the three vocational training institutions have different activities. The SENAI offers multi-annual initial training courses for skilled workers and engineers, within which both occupation-related knowledge and more general educational content is provided. The SENAC provides initial training in the field of commerce and services, predominantly in the classroom, with provision for practical teaching on computers, for example. The diploma is acquired within a maximum of one and a half years. SENAR works exclusively in the field of part qualifications and further training.

Technology training in the general school system includes pre-occupational training in the compulsory sector as well as the three-year courses at secondary II level, technical training at university level and post-graduate technological training. At full-time upper grade secondary vocational schools financed by the federal authorities or states, an initial vocational diploma for occupational groups such as clerical workers, engineers, health workers and teachers is catered for within the compulsory sector. A vocational qualification at this level also satisfies university entrance requirements. Technology training centres offer courses at all levels of the education system, which aim at training middle management levels in particular.

Apart from the occupational training branches at secondary II level, which date back to the military regime, the other full-time vocational schools are the engineering schools, which come directly under the national education ministry. The four-year engineering schools essentially provide training in the technical and agricultural fields, whilst the three to four year secondary level vocational schools teach commercial, care and educational activities as well as technical and agricultural ones. Unlike the engineering schools the vocational education sections of the secondary schools do not usually have sufficient means to provide practical training.

The high drop-out rates and the fall in the numbers of secure jobs, which has boosted free-lance activity, particularly in the informal sector, have – and this applies to all three of the countries in question – led to the ministries for labour becoming increasingly involved in the shaping of vocational education. Essentially, what is provided are programmes for those dropping out of school and the unemployed leading to qualifications for jobs. More will be said about this development below.

The Brazilian government is struggling with the problems affecting all the South American countries. The north-east of the country is the single largest pocket of poverty in the whole of Latin America. Children under 14 make up 18% of the working population and most young people have no chance of finding a regulated training place or job. Thus access to the Brazilian training system is reserved for a privileged section of the population. Young people are expected to start paying their way at an early age, and therefore quit formal education. What is more, even completion of vocational education is no automatic guarantee of finding a well-paid job. There is also a negative attitude towards practical training, with an academic training being preferred wherever possible. Over the next few years the Brazilian government aims to create a national system for technological training by bringing together the existing training establishments under the co-ordination and supervision of the Ministry of Education, to make good the shortage of training places, to improve co-operation between companies, training centres and the government, and to bring the vocational education system into line with recent technological developments. (see Lanzendorf et al. 1996)

Of the South American education systems, it is the ***Argentinian*** one which goes back the furthest. Unlike in other Latin American countries, no sectoral vocational education institutions based on private economic initia-

1432

tive have developed alongside the public education system. Initial vocational education was and still is an integral part of the state system. Vocational and technical education in Argentina is therefore marked by the predominant steering role played by the state. Neither employers nor the trade unions have any formal responsibility or take any initiative. Thus people also talk of the 'secondarisation' of vocational education in Argentina.

Formal vocational education in Argentina takes place in vocational secondary schools, which until 1995 came under the *National Council for Technical Education* (Consejo Nacional de Educación Técnica, CONET). In the same year, following the decentralisation of responsibility in the secondary school sector, the CONET was replaced by the *Institute for Technological Training* (Instituto Nacional de Educación Tecnológica, INET). CONET was a public, decentralised provider with functional autonomy which was founded in November 1959. The vocational education institution came under the Education Ministry, just as is now the case with the INET, and was responsible for the vocational education sector financed by the ministry. Until 1992, the Education Ministry was responsible for around two thirds of vocational secondary schools, some provinces had their own schools, and some were run on a private basis. The establishments for technical training which pre-1959 were ministry-run or those providing apprenticeships from Peron's era were placed under the responsibility of the CONET. The CONET was in charge of the funds from the apprentices levy which prior to 1959 was managed by the Education Ministry's Committee for Teaching and Vocational Guidance. During the reform of the public education system in 1995 the CONET, the *National Centre for EDP-Training* (Centro Nacional de Enseñanza de la Informática, CENEI), and the *Centre for Research and Development into the Dual System* (Centro Nacional de Investigación y Desarrollo del Sistema Dual, CENID) were merged to form the *Institute for Technological Training* (Instituto Nacional de Educación Tecnológica, INET). This shifted greater responsibility to the provinces. It is now they who are responsible for the technical schools and training centres, whilst the INET is only responsible for overall planning and assistance and advice on future education strategies.

A distinction is drawn between *technical education* (educación técnica) in secondary schools and the practice-oriented and market-related *vocational training* (formación professional) directed at the unemployed and those who drop out of school. Technical training at a corresponding secondary school centres on training staff for executive activities and supervisory roles at the skilled level. Vocational secondary schools act more as a special type of school leading to university entrance qualifications than as an institution providing the type of qualification needed to enter an occupation. Participants are prepared both for subsequent employment and for higher studies (dual qualification). The poor infrastructure, high drop-out rates and lack of any practical reference are the problems faced by training in the state secondary schools.

A further provider of vocational training is the *Ministry for Labour and Social Security* (Ministerio del trabajo y seguridad social) within which the *Department for Vocational Education* (Subsecretaria de formación profesional) was set up in accordance with the December 1991 National Employment Act (Ley Nacional de Empleo). Its role is to develop special training for disadvantaged groups on the labour market, bearing in mind both individual interests in terms of further personal and professional development, and the needs of the company. Generally speaking, in recent years measures directly related to work, aimed at improving skills and which form part of the vocational training system, have increasingly been taken over by the labour administration within the framework of job promotion.

Although the vast majority of Argentina's active population completes compulsory schooling, only a minority goes on to vocational education. Because of increased international competition, this level of qualification no longer satisfies firms' requirements. People have realised that, in particular given the context of the MERCOSUR integration process, only an extensively trained, technically

qualified and flexible workforce can guarantee competitivity in the long term. Measures in the pipeline or in certain cases already implemented, such as the decentralisation of competences in the secondary education sector, should improve the situation. There is also a new approach which aims at involving the social partners in vocational education in order to improve the alternation between school and firm (Lanzendorf, 1997).

Socially speaking, education and training in ***Uruguay*** are highly regarded. Generally speaking, occupations which require study are held in greater esteem than manual professions, even though the latter are often better paid. There is a clear preference for the school-leaving exam, with less than 10% of those leaving lower grade secondary school opting for a technical training at the UTU. With an average of seven completed years of education, Uruguay has a comparatively high level of education in Latin American terms. The small size of the country and the concentration of its population in the capital, Montevideo, means that vast sectors of the population have access to the education system. The illiteracy rate in Uruguay (0.4%) is low not only in comparison with other Latin American countries, but also in international terms, and it is still falling thanks to virtual blanket coverage, particularly in the primary sector.

In Uruguay the *Council for Technical Vocational Education* (Consejo de Educación Técnico-Profesional, C.E.T.P.) under the aegis of the Ministry for Education is the body which provides vocational education at secondary technical level in schools and training institutions. The C.E.P.T. (also known as the *Uruguayan University of Labour* (Universidad del Trabajo del Uruguay or UTU)) aims to be open to as broad a population as possible and generally to provide vocational education. The UTU is the biggest provider of formal vocational education, covering the whole range of different training levels, which range from the basic level of secondary I, through technical vocational training to technical school leaving certificates.

There has been a noticeable shift in the defining of vocational education from the Education Ministry to the Ministry for Labour, through the creation of the *National Directorate for Employment* (Dirección Nacional de Empleo, DINAE) and the *National Employment Board* (Junta Nacional de Empleo, JUNAE), whose role it is to advise the Ministry for Labour on labour market policy, and to provide guidance programmes for the labour market as well as training programmes. The DINAE's work has led to a process of decentralisation and diversification in the vocational education field, which has resulted in the central role which the UTU played in vocational education and further training for many years being watered down. What is more, the drafting of vocational education programmes has also been split from their implementation. This means that although the DINAE is responsible for financing the programmes, it does not actually implement them. It has also meant that more and newer organisations – under state control – have become involved in vocational education. The UTU had to surrender many of its powers in the course of this process. For decades the UTU – a body which has been in existence since the late 19th century and which in spite of its deceptive 'university' title almost exclusively offers secondary level courses – was the sole provider of vocational education courses. Formal vocational education at the UTU was assessed in 1995 under a study by the Inter-American Development Bank, within the context of the development of new technologies and changes to the economic structure. The study came to the conclusion that the courses on offer were in desperate need of an overhaul, since the institution had got out of hand, the quality of courses was very poor, they were badly organised, and the training was too long. Moreover, the lack of teacher training amongst the staff and the fact that the schools were badly equipped also came in for criticism. Since the UTU was no longer in a position to cover the demand for vocational education as a result of these shortcomings, supply on the private market exploded in response to the vacuum. This led to utter confusion in terms of the provision available and a lack of checks on qualifications. Through a decentralisation process in the field of training and through increasing competition from private and semi-state institutions over re-

cent years, the UTU has seen its importance plummet in comparison with what it used to be.

The compulsory secondary I level lasts three years, during which pupils may choose between two different types of schools. Either they attend secondary school *(secundaria)* which provides a general education, or they opt for the technically oriented UTU, which aims more at young people who subsequently want to enter working life. The ensuing three year cycle concludes either after three years with the university entrance qualification or again with the technically oriented UTU. Here training lasts from two to seven years and is split up into four main areas – agriculture, industry, art/craft, and services. University entrance requirements can also be met along this path under certain circumstances. Those who have not completed nine years of compulsory schooling can still train at the UTU, in vocational training centres *(Centro de Capacitación Profesional*, C.E.C.A.P.) or through the Ministry for Youth's programmes to unskilled worker level. Upon completion of the nine years of compulsory schooling the majority of newcomers to the employment scene do not have adequate technical or vocational training and the successful use of completed training often depends on training or further training measures in the company.

Apart from formal training provision there is also a whole series of state, non-formal training possibilities, which mainly target socially marginalized young people who have dropped out of the formal training and vocational education system. The courses do not provide for the transition to the tertiary level and are not national in scope. (Heipel et al.)

2.7.2 Themes and trends in VET research in South America

VET research in South America is not an academic discipline in its own right, and as a result interdisciplinary research approaches have sprung up in the fields of sociology, economics, psychology, and to a lesser extent in education science, complemented by individual studies of applied VET research. This inter-disciplinarity means that the institutions involved in VET research are located in very different fields, and there is also little institutionalisation. Thus departments in the Ministries for Education and Labour, universities, non-governmental organisations, and both public and private research establishments all deal with VET research amongst their other research topics. A study of the most recent trends and tendencies in the South American vocational education systems which have already been touched upon, and which affect VET research topics and institutions, should shed some light on the tendencies and content affecting research and the institutions involved in it. This will be followed by a detailed description of the institutes and organisations which are active in national and Latin America-wide VET research. The institutions deal in particular with application-oriented issues intended for political decision-makers, and priorities are determined accordingly, with academic work often being the by-product of independent, non-university research institutes from which the general trends in vocational education can be deduced.

Whereas in the past training was predominantly not geared to practical work or labour market needs and formed part of general education policy – this applied in particular in Argentina and Uruguay – training policy has recently tended to be seen increasingly as an active labour market policy. The reason behind this new line was both the general effects of globalisation on the markets, which along with other developments has resulted in increased competition for firms and the appearance of new employment profiles, as well as high unemployment figures and drop out rates from the formal education system, which led to the Ministries for Labour bringing in short courses providing qualifications for jobs. So apart from the departments in the Education Ministries, Labour Ministries are also becoming more heavily involved in shaping and assessing vocational education.[3] Cop-

[3] The institutional reflection of this in Brazil is the National Secretariat for Training and Vocational Development *(Secretaria Nacional de Formación y Desarrollo Profesional*, SEFOR) and in Uruguay the National Directorate for Labour *(Dirección Nacional de Empleo*, DINAE).

ing with technological progress and the qualifications which it implies, qualifying micro-enterprises and workers in the informal sector, co-ordinating technical education and practice-oriented qualifications, co-ordinating formal and non-formal supply taking local and regional requirements into account, the social implications of vocational education, the influence of new technologies on vocational qualification requirements, the needs of disadvantaged groups and the integration of marginalized sections of the population, particularly young people in vocational education programmes, are increasingly being taken as the subject of research.

Since the founding of MERCOSUR in particular, comparative vocational research has grown in stature in South America. Through describing the core functions of the vocational education systems in individual countries, with their overall aims, an effort is being made to draw on developments even in industrialised countries, in order to pick up tips as to how to solve problems back at home. The overriding aim in setting up MERCOSUR was the free circulation of goods, services and manpower. The aims which stemmed from that for the organisation of vocational education were to achieve equivalence in the recognition of diplomas, to create information systems on vocational education systems in the member states and to increase co-operation on vocational education matters.

The institutions which are described hereafter have drawn more heavily on new communication and information technologies. This should allow for better networking within Latin America but also worldwide, and should facilitate access to information for those involved in vocational education.

2.7.3 The Inter-American Centre for Research and Documentation on Vocational Education (Centro Interamericano de Investigación y Documentación sobre Formación Profesional, CINTERFOR)

The Inter-American Centre for Research and Documentation on Vocational Education (*Centro Interamericano de Investigación y Documentación sobre Formación Profesional*, CINTERFOR) which was founded in 1963 and is based in Montevideo, Uruguay, is an offshoot of the International Labour Organisation which brings together the organisations and institutions responsible for vocational education in the ILO member states in Latin America and also Spain. The objectives at the time the centre was set up were guided by the demands of member states, i.e. to see a general rise in the level of vocational education, in order to improve living conditions for workers, and to improve the quantitative and qualitative performance of firms. Even before the CINTERFOR was founded some ILO member states (Argentina, Brazil, Chile, Colombia, Uruguay and Venezuela) were already trying to create national vocational education services with the support of the ILO, basing themselves on close co-operation with companies, workers and vocational training experts. The efforts undertaken by the countries which concentrated on preparing and publishing the vocational education programmes, preparing educators and building up establishments, demanded comprehensive research work, and the co-ordination and exchange of experience available in the individual countries took on added importance. It was against this backdrop that CINTERFOR was initially brought into being as a permanent centre of co-operation for the national institutions. The role of the centre was to collate documentation from the field of vocational education, to build up contacts, to diffuse information to national centres, to conduct research and to prepare teaching material for educators.

Since its creation the aims and role of CINTERFOR have been extended. The promotion and strengthening of technical co-operation in the context of the development and modernisation of vocational education, assistance in drafting and bringing in vocational education programmes through promoting strategic alliances between the state, the workforce and employers, the development and spread of a regional network for vocational education within the member states, the promotion of research activities, and the conducting of research into the institutionali-

sation and setting up of systems and programmes for vocational education with the aim of promoting efficiency, competitivity and social justice have all been added.

The lion's share of CINTERFOR's work is documented in numerous publications. Examples include the quarterly *Boletin CINTERFOR* which publishes theoretical contributions related to Latin America by vocational education experts, and the *Herramientas para la transformación* series in which the results of primary studies, surveys and academic essays are published. The publication *Trazos de Formación* deals essentially with current themes in the vocational education field, whilst *Papeles de la Oficina técnica* documents international, national and regional experiences in the fields of vocational education and employment.

The breakdown of funding for the centre reflects the backing of the various groups and initiatives which CINTERFOR has brought together. On top of the annual payments by the ILO and the Uruguayan government there are also voluntary payments by the member states and institutions, and international organisations also contribute to the funding of certain projects. The centre mainly employs experts in vocational education on limited contracts, most of them coming from Latin American countries.

CINTERFOR also runs and organises the *Latin American Information and Administration Network for Vocational Education* (Proyecto Red de Información y Gestión sobre Formación Profesional para América Latin y el Caribe, CINTERNET). CINTERNET is a network born of a co-operation agreement between the ILO and the Federal Republic of Germany on the exchange of information in the field of vocational education. CINTERNET is intended for the use of those involved in vocational education, and provides rapid access to information on innovation, information and methodology. Such access to information should make it easier for those responsible for vocational education at national level to respond appropriately to new challenges on the labour market. The network documents the current situation and offers rapid access to questions of vocational education in Latin America.

2.7.4 The International Centre for Education, Labour and the Transfer of Technology (Centro Internacional para la Educación, el Trabajo y la Transferencia de la Tecnología, CIET)

The CIET, which came into being in Brazil in 1993 as the result of a joint initiative involving the *National Confederation for Industry* (Confederación Nacional de la Industria, CNI), the National Service for Industrial Training (Serviço Nacional de Aprendizagem Industrial, SENAI) and UNESCO, acts at national and international level as a centre for observing and documenting the effects on and changes to vocational education brought about by the development of new technologies. The theoretical approach when the centre was founded was the understanding of the fact that the effects of new developments in information and communications technology and more generally the development of new technologies with the resulting changes on the labour market and the appearance of new qualification standards can have both a negative and a positive effect on national industries. Vocational training systems play a key role in positive adaptation:

'As technological development activities become more specialised, complex and dependent on specific information and knowledge more and more adequately trained skilled human resources are required for such special tasks'.

The centre researches, forecasts and formulates proposed solutions in the fields of information, technology, employment, and education in order to provide positive backing for the process of adaptation, and serves as an advice centre, in particular for the CNI/SENAI, which administer 900 vocational schools and 45 centres of technology.

By way of products and services the CIET is involved in developing an information system about international experiences in vocational education, life-long learning and the reintegration of adults and young people, re-

search into the link between education and work and the influence of new technologies on employers and workers, the development of an advisory centre for companies wanting to run vocational education and further training activities, and tracking political discussion of vocational education in Brazil.

The centre is mainly financed by the SENAI and brings in additional funds from courses, seminars and publications. Around 30 people are employed in the centre on a permanent basis, with backgrounds in education, labour, technology, sociology, systems analysis, engineering, mathematics and IT. International experts are also constantly being employed by the centre.

2.7.5 The National Research Centre for Human Development (Centro Nacional de Estudios de Población, CENEP)/ Education and Labour Network (Red Educación y Trabajo)

The CENEP in Buenos Aires plays an important role in national and international VET research. It is from there that the international education and labour network is managed, as well as a database on literature related to vocational education. The FIEL Economic Research for Latin America Foundation (*Fundación de Investigaciones Económicas Latinoamericanas*, FIEL) also conducts individual projects on questions related to education and vocational education. The centre mainly employs researchers from the social sciences and conducts research in the areas of human development, information technology, technical assistance and the distribution of information. The centre follows an inter-disciplinary approach, develops and supervises projects in co-operation with institutions and organisations, governments and private establishments. Amongst other subjects, the CENEP researches population growth, mobility, labour markets, education and work, pension systems and social security and health systems and domestic and family development.

2.8 Turkey

METARGEM: The Research and Development Centre of Vocational and Technical Education, Ankara [4]

The Research and Development Centre of Vocational and Technical Education (METARGEM) has been established with the aim of providing or having provided the services of planning, research, development and production required by the Ministry of National Education in order to raise the quality of schools and institutions of vocational and technical education to the level of standards in developed countries. METARGEM also meets the demand for research and programme development of other state and private institutions and organizations.

METARGEM has 8 departments (Programme Development, Research and Planning, Project Development, Technical Publications, Measurement and Evaluation, Educational Technology, Personnel Administrative and Financial Affairs, Revolving Fund Management)

Some of the main duties of METARGEM are: Conducting research, conducting studies to determine long and medium term goals, preparing an 'Annual Evaluation and Development Report', cooperation with domestic and foreign institutions, preparing educational books, and publishing periodicals and news bulletins.

METARGEM has so far provided a number of publications such as 'Evaluation of the Applications in Multi-Programmed Lycees' and 'Vocational and Technical Education in the Turkish Education System'.

As to programme development activities 'The process of programme development in Vocational and Technical Education' and 'Total Quality Management' should be mentioned.

METARGEM cooperates with international institutions such as the OECD INES Project-Network B and the UNESCO/UNEVOC

[4] The METARGEM summary is based on official documents made available by Walter Georg. Ulrich Arnswald was responsible for assessing and summarising.

Project. METARGEM is also continuously exchanging information and Material with the 'European Centre for Developing Vocational Education' and the 'European Training Foundation' established in Turin.

2.9 United States of America, by Uwe Lauterbach

2.9.1 Introduction to the education and vocational education system in the USA

There are various reasons why it is so difficult to identify where the emphasis lies in VET research in the USA and to make general comments on VET research. As in most countries, vocational education is a research subject for the whole range of social sciences. There is no specific institutionalised scientific discipline for labour, vocational and economic education. Besides these theoretical scientific reasons, the research subject itself further muddies the waters in that it distinguishes between vocational education, technical education, vocational training etc, terms which in German are lumped together under the heading *'berufliche Bildung'*.

These cultural and semantic reasons apart, the way in which the federal system in the USA is organised politically makes it even more complicated to describe the state of play in VET research, since responsibility for the education system lies with the individual federal states. Futhermore, there are some 15,500 school districts at local level with local boards of education all having various competences of their own.

Basically, the American constitution does not provide for any federal legislative powers on matters of education. The only competence the central authorities have is on directives covering the educational establishments for the federal administration and the military. Otherwise it may also intervene in matters of race integration or discrimination against certain population groups. The federal government can exert influence through the constitution's *welfare clause*. Through target-related grants in aid, the rules pertaining to which are strictly laid down, the central administration has a means of shaping the education system in the individual states. They mean that on this sub-continent with its fifty federal states and 260 million inhabitants, binding minimum standards are respected, which makes comparison possible within the federal system. In vocational education however these mainly take the form of programmes for the 'disadvantaged'.

Besides this political influence, the work of the federal authorities concentrates heavily on *documentation* of the state of play in the education system. Many educational policy makers at state and local level would be happy to see the work of the federal government in Washington limited to this role alone.

Apart from the Department of Education at federal level there are a further twenty ministries with competence in this field. Two ministries, the *Department of Education* and the *Department of Labour* are in overall charge. Programmes such as career education, initial vocational education (occupational education, vocational education, co-operative education, adult education) and various promotional measures for disadvantaged groups in the population (the illiterate) are handled by the Department of Education.

Company-oriented measures, (on-the-job training, apprenticeship programme), the promotional programmes, anti-unemployment measures through companies, trade unions and other institutions and programmes such as the Job Training Partnership Act come under the Department of Labour and the Employment and Training Administration.

Actual vocational and technical education as such is provided in Community Colleges, Technical Institutes, etc., which come under the aegis of the states or school districts, though it must be said that vocational and technical education is not the preferred path in the education sector by any stretch of the imagination, that is to say that it is not very highly regarded when compared with 'general' education.

Even this brief outline of the possible research fields for VET research and the political struc-

tures reveals the difficult framework conditions governing the development of VET research on the one hand, but on the other hand also explains why a state of the art report on VET research would require a degree of effort which was not feasible within the limits of this project. We will therefore limit ourselves here to an overview of the VET research conducted within the framework of national vocational education policy as implemented by the administration in Washington D.C. Two major journals which focus on comparative education were also assessed in order to get a look behind the scenes of 'free' and 'independent' academic research.

2.9.2 VET research and national vocational education policy

National Centre for Research in Vocational Education (NCRVE), University of California, Berkeley,
http://ncrve.berkeley.edu/Default.html

The National Centre for Research in Vocational Education (NCRVE) is the largest national establishment in the USA dealing with research, development and diffusion of subjects related to vocational education. The Centre is financed by the Office of Vocational and Adult Education of the U.S. Department of Education. Since 1988 the Centre's headquarters have been at the University of California, Berkeley, and it has played a key role in working out new concepts in the field of qualifications for the workforce. The centre's main aim is 'to strengthen school-based and work-based learning to prepare all individuals for lasting and rewarding employment, further education, and lifelong learning.' (National Centre for Research in Vocational Education)

The centre focuses on finding new and innovative ways of linking education and work. Training should specifically prepare young people for the world of work. Amongst other things, the centre provides information about pilot projects, curriculum development, qualification standards, further training of teachers and the integration of curricula. The work of the National Centre for Research in Vocational Education is used by teachers and administrations in high schools and community colleges, policy-makers, researchers and employers.

The centre's Work:

- Expert groups which tackle a range of subjects (student guidance through to structuring of schools);
- Support and information to show teachers how to prepare students for lifelong learning;
- Advisors who work together with schools in drafting education and training programmes which are related to the labour market;
- Student and teacher guidance;
- On-line discussion groups;
- Websites with the latest information about the centre and forthcoming events;
- Circulars giving information about the work of the centre.

The centre is comprised of a consortium of eight professors from the University of California, Berkeley, the University of Illinois, the University of Minnesota, MPR Associates Inc., the University of Colombia, the University of Wisconsin and Virginia Polytechnic Institute and State University. The presence of the NCRVE or one of its members in virtually every region of the USA facilitates contact with the various education and training establishments and the labour market.

In terms of training, the main issue at stake for the centre is to offer every student the option of a recognised course which is related to the needs of the labour market, and to promote the development of integrated curricula with the emphasis on problem-oriented learning. Students can thus be encouraged to find a job, train further and become imbued with the concept of lifelong learning (output oriented vocational education).

1998 Work Programme:

To examine the extent to which students' performance has improved as a result of efforts undertaken in the *High Schools* and *Community Colleges* to simultaneously prepare students for an activity and also for further training. Research particularly into the degree to

which structuring, organisation and implementation can be brought about in order to reach the planned aims. The NCRVE's work is guided in this by the general aims of the Office of Vocational and Adult Education (with very general over-arching themes: teaching and learning; curricula, career guidance, technology, student support; partnerships and agreement on change; trainees, companies, State, elected representatives, local authorities; organisation and financing, etc.).

Projects: curriculum integration, academic skills, performance at the workplace; development of work-related technological skills.

2.9.3 VET Research outside national vocational education policy

In order to gain an overview, the last five years of relevant journals – *Comparative Education* and *Comparative Education Review* – were assessed. The subject of VET research was not explicitly dealt with. The main subjects of research are international matters and theoretical aspects of international comparative VET research.

Comparative Education

Patricia Broadfoot (ed.): Comparative Education. Massachusetts,
http://www.carefax.co.uk/ced-ad.htm

International matters, curriculum research, skills research

The quarterly journal *Comparative Education* which has been in existence for 34 years publishes up-to-date information and analyses of problem issues and trends in educational studies worldwide. Particular attention is paid to the importance of comparative studies concerning the drawing up and implementation of education policy, not only with explicit reference to education, but also combined with related disciplines and social, national and international developments. The journal also deals with issues related to governmental policy, management, sociology, technology and communication insofar as they affect education and training. The journal's administrative board which is made up of nine experts in comparative education meets 3 times per year to discuss contributions with the advice of experts, particularly on international issues.

Comparative Education Review

Erwin H. Epstein (ed.): Comparative Education Review. Chicago,
http://www.journals.uchicago.edu/CER

The journal *Comparative Education Review* is the official mouthpiece of the American Comparative and International Education Society, an organisation of researchers and university teachers of comparative education, which was set up in 1956 with the aim of improving knowledge and teaching methods in the field of comparative education. The journal comes out quarterly and apart from book reviews it also deals with international matters and publishes theoretical contributions, for example concerning the effects of globalisation and decentralisation on the education sector. There were no specific contributions on VET research.

3. International scientific societies and independent research establishments

3.1 Establishment and organisational framework, by Uwe Lauterbach

It was the political framework conditions which provided the decisive impetus for the establishment of the discipline known as *comparative education*. Without such organisational roots the sustainable presence of any science or branch of research would be impossible. Thus at this point we will consider in brief whether and how it has been possible to establish comparative education on a permanent basis within the scientific community as well as in the area of transfer between education policy and education administration at national, regional and global level.

The first moves towards comparative education were prompted by 'curiosity' about seemingly incomprehensible foreign education sys-

tems. As a consequence, visits to the countries deemed interesting became increasingly popular. Hilker (1962, pp. 22 ff.) coined the phrase 'the age of educational journeys', which developed from the cultural voyages of the 17th and 18th centuries.

From the second half of the 19th century national and international institutes and organisations which systematically carried out educational documentation crystallised out of this travel activity. National institutes to be mentioned here are: *The Office of Education* (Washington/USA 1868) from which emerged the Ministry of Education, the *Musée Pédagogique / Institut Pédagogique National* (Paris/France 1879), the *Pestalozzianum* (Zurich, Switzerland 1874), the *Office of Special Enquiries and Reports* (London, Great Britain 1895) and the *Zentralinstitut für Erziehung und Unterricht* (Berlin/Germany 1914); international educational organisations and institutions include: the *Bureau International d'Education* (Geneva 1925), the *Institut International de Coopération Intellectuelle* (Paris 1925), *UNESCO* (Paris 1946), the bodies of the former Western European Union/European Community/European Union such as *EURYDICE* (Brussels 1981) and of the *Council of Europe* such as *EUDISED* (Strasbourg 1970). Even the *World Bank* in Washington D.C. has its own Education and Employment Division which backs up the World Bank's political work with scientifically based studies etc. (Hilker 1962; Schneider 1961; Vorbeck 1997; Loxley 1994). Since 1971 the *OECD* has been running the *Centre for Education Research and Innovation (CERI)* in Paris, which has a prominent profile on account of its lively publication work, e.g. Education at a Glance, OECD Indicators.

Apart from the national and international documentation centres and research establishments in the individual countries, chairs and institutes for international and comparative education also developed within the universities. Once again the developments here took off in the USA in 1923 with the *Teachers College of Columbia University* (New York) and researchers such as: Monroe, Kandel, Alexander, Bereday, the *Comparative Education Centre of the University of Chicago* (1959), *Stanford International Development Education Committee (SIDEC)* (1965), in *England* with the *Institute of Education of the University of London* (1932), Kings College, the Universities of Reading, Oxford and Leeds, and in *Germany* with the Pädagogische Akademie Bonn (1926), Universität Köln with Friedrich Schneider (chair but not for comparative educational studies).

These institutions, which are integrated into university research and teaching, were and still are of fundamental importance to the shaping of theory and the further development of the discipline in general. The central role of the university institutes in the development of comparative education and its theories is abundantly clear just from the development of comparative education as dealt with in this chapter.

German developments were marked during the age of National Socialism by virtually total isolation from the outside world. After the Second World War, comparative education took off again with renewed impetus. Under the auspices of the French occupying powers a congress was held in Mainz in 1949. The American occupying powers initiated the *International Conference on Comparative Education* which took place in Chiemsee in April 1949. The *Hochschule für Internationale Pädagogische Forschung* which was founded in 1952 in Frankfurt am Main – it gave rise to the German Institute for International Educational Research in 1964 – also helped to bring German expert circles back into the mainstream of international development. The chair for comparative education at Hamburg University (1950) and the UNESCO Institute in Hamburg (1953) were the first postwar creations in the comparative education field (Hilker 1962, p. 70 ff.; Schneider 1961, p. 65 ff.). Comparative education developed further during the sixties and seventies through the work of the university institutes in Marburg (Froese), Heidelberg (Roehrs) and Bochum (Anweiler). As a result of the growth and development of universities in the wake of German reunification, additional professorships for comparative education were set up at the universities of Leipzig and Dresden as well as at Humboldt University in Berlin.

1442

As a direct result of the conferences on comparative education, scientific societies were founded, such as the *Comparative Education Society* in 1956, which is today's *Comparative and International Education Society (CIES)*, the *Comparative Education Society of Europe (CESE)* in 1961, and the *World Council of Comparative Education Societies (WCCES)* in 1970. The CIES and CESE grew out of the scientific work of the university institutes for educational studies or comparative education (Loxley 1994, p.933-942; Hilker 1962; Schneider 1961). The *WCCES* brings together the national societies (Comparative Education Society) of which there are now more than 25, whilst the membership of the CIES is made up of individual researchers.

After the Second World War a series of independent research institutes outside the universities were set up. They are mainly financed through national public funding or by international organisations. They are either very empirically organised and provide services for the education administration (e.g. the *Centre International d'Etudes Pédagogique Sèvres (CIEP) and* the *Deutsche Institut für Internationale Pädagogische Forschung (DIPF)*), or they are strongly rooted in theory and method (e.g. *the Australian Council for Educational Research (ACER)*).

The picture is completed by regional or globally organised societies and organisations which were not founded in responce to executive or legislative requirements (non-governmental organisations) but rather as a result of the special interest of researchers, e.g. the *International Reading Association (IRA)* and the *International Association for Educational Assessment (IEA)*.

3.2 International Association for the Evaluation of Educational Achievement (IEA), by Uwe Lauterbach and Brigitte Steinert

Because of their free-floating position the independent international comparative research institutes are better suited to conducting research studies using this methodological concept than are institutes which are tied to national or international administrations or the university institutes which tend to concentrate more on developing theory (Loxley 1994, p. 934). The subject knowledge which links historical knowledge with present-day expertise about education systems with empirical analytical authority can generally be found or can be pooled in supra-institutional networks. Lack of staff – a common occurrence – presents more of a problem in tackling the increasing workload resulting from ever more complicated systems and contexts.

The latest TIMSS study can be quoted as an example (Baumert et al. 1997, particularly pp. 38 f). This international comparison of mathematical-scientific teaching was so demanding that it only came to a successful conclusion thanks to the fact that the project was carried out by an 'independent' international association of researchers, the International Association for the Evaluation of Educational Achievement (IEA) in conjunction with national research institutes (e.g. in Germany: the Max-Planck-Institut für Bildungsforschung, Deutsches Institut für Internationale Pädagogische Forschung), national universities (e.g. the University of Kiel and Humboldt University Berlin), national ministries (e.g. the Federal Ministry for Education, Science, Research and Technology in Germany), and international organisations, e.g. OECD.

The *International Association for the Evaluation of Educational Achievement (IEA)* was founded in 1959 and is a non-governmental international association based in The Hague in the Netherlands, to which research institutes, universities and governmental authorities from over 45 countries belong. Its role consists of conducting international comparative school achievement studies and thereby developing indicators for learning processes and in particular for the outcome of learning. Through regular observation of the output of education systems a basis of knowledge can be built up for users in education policy, educational administration and educational research, in order to bring about improvements.

The core subjects taught in schools are the main subjects for comparative studies (the years of the main studies are shown in brackets): maths (1964, 1980-1982, 1994-1995), sci-

ences (1970-1971, 1983-1984, 1994-1995), six-subject survey (science, reading comprehension, literature, French and English as foreign languages, political education), reading literacy study (1970, 1990-1991), international study of achievement in written composition (1984-1985), classroom environment study/CES (1981-1983), computers in education study (1987-1990), pre-primary project (1988-1989, 1992-1996).

4. International organisations

4.1 World Bank Group, by Heike Maier and Heinz Bartel

Framework conditions

At the present moment the regional emphasis for loans is on the Eastern Asiatic and Pacific area as well as Latin America and the Caribbean. In the human development field the *World Bank Group*[5] provided 1,017 million US$ for 18 education projects in 15 countries in the 1997 tax year (1995: 2,096 million US$; 1996: 1,7057 million US$) (World Bank Annual Report 1997, p. 18). Loans for education rose significantly in the 1998 tax year. 36 loans were granted to 28 countries. Only one project in Hungary[6] and one in the Lebanon[7] dealt explicitly with vocational education in 1998. The total credit volume for this sector amounted to 3,129 million US$ (World Bank Annual Report 1998, p. 69). That provided 11% of the loans for the education sector.

Vocational education

The role of vocational education in the World Bank has changed since the early 90s. Whilst in the 70s and 80s it was projects in this field that were promoted in particular, nowadays the view is that:

'Vocational and technical skills are best imparted at the workplace, following general education. The private sector should be directly involved in the provision, financing and governance of vocational schooling.' (quoted from Watson 1996, p. 47)

Watson interprets this statement in relation to the real drop in loans to the vocational education sector in the following terms:

'Because VOCED has generally proved to be expensive it is far easier for the Bank to suggest that private employers should take on this role themselves: it excuses the Bank from becoming too heavily involved in that costly area again.' (Watson 1996, p. 53)

The World Bank Group acts first and foremost as a bank, i.e. research, if research there be, is always conducted from an economic point of view. The problem with this is that:

'The research base is largely restricted to that produced by the World Bank staff or commissioned by the Bank. The result is a self fulfilling prophecy: Research data supports the policy that the Bank wishes to pursue because that research has already helped to shape that policy'. (Watson 1996, p. 49; see also: Samoff 1993, p: 181-222)

The importance of the World Bank in terms of VET research tends therefore to be related to its role as a publisher, or in the transfer of knowledge. The (major) World Bank projects are now widely documented on the Internet. Via *Topics* (Education and Training), *Regions* and *Countries* or a server's global search engine, researchers can call up primary information.[8] Pdf documents about the vocational

[5] The group comprises the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Agency (MIGA) and the International Centre for Settlement of Investment Disputes.

[6] A programme against youth unemployment. Young peoples' chances on the labour market are improved by improved training possibilities. Total cost 60.1 million US$.

[7] Under the World Bank's reconstruction work 68.86 million US$ is being invested in the vocational education system in the Lebanon, to bring it up to market requirements.

[8] The server can be searched e.g. with key words (vocational Chile) for relevant documents.

education systems in individual countries can also be called up.[9]

4.2 Unesco, by Heike Maier and Heinz Bartel

Framework conditions

In the 1996/97 financial year there were 518.4 million US$ available to UNESCO. With this budget, which is actually no bigger than that of a sizeable university, UNESCO supports projects in 180 countries. Besides this budget, which is financed by the member states, Unesco also receives income from voluntary contributions. For the 1996/97 tax year these amounted to 290 million US$. (http://www.unesco.org (24 March 1999)) More than 35% of Unesco's funds go into the education sector.

The current priorities in UNESCO's work (http://www.unesco.org/education/educprog/prog_idx.htm (1 April 1999)) are lifelong learning[10] and learning in the 21st century[11].

UNESCO's work in the education sector is supported by the following research institutes:

- International Institute for Educational Planning (IIEP), Paris; (http://www.unesco.org/iiep/ (6 April 1999).)
- Unesco Institute for Education (UIE), Hamburg; (http://www.unesco.org/education/uie/index.html (6 April 1999).)
- International Bureau of Education (IBE), Geneva; (http://www.ibe.unesco.org/ (6 April 1999).)
- European Centre for Higher Education (CEPES), Bucharest. (http://www.cepes.ro/ (6 April 1999).)

Vocational education

Unesco is the only specialised agency of the UN to have a mandate in the education sector. It does not have a monopoly, however. In 1954 the following distribution of labour was agreed upon between the International Labour Organisation (ILO) and UNESCO:

'The ILO is primarily concerned with technical and vocational education and training in relation to occupational activities and welfare of employees. UNESCO is primarily concerned with technical and vocational education as part of the education of human beings (...). Technical or vocational education which takes place within a general education system is primarily a matter for UNESCO, subject to consultation with the ILO concerning the prospective demand for particular skills

[9] 'The Social Protection Team is pleased to make available a groundbreaking set of country study summaries and issues briefs on vocational education and training based on a joint World Bank- ILO study, Skills and Change: Constraints and Innovation in the Reform of Vocational Education and Training.' The views expressed here are those of the authors, and should not be attributed to their respective organisations.' in: http://wbln0018.worldbank.org/HDNet/Hddocs.nsf/7b5f392774476c0d852566810054d98e/d5afc250286633c6852566b100014bbb?OpenDocument (18 March 1999).

[10] Subject areas are: Education for All Forum, Alternative Education for Marginalised Youth, Learning without Frontiers, Early Childhood and Family Education, Special Needs Education, Preventive and Health Education, Information in the field of drug abuse prevention, UNESCO programmes and Activities for Women, Promoting Girls' and Women's education in Africa, in: http://www.unesco.org/education/educprog/prog_idx.htm (1 April 1999).

[11] Subject areas are: World Conference on Higher Education, UNITWIN UNESCO Chairs Programme, Academic Mobility and Recognition, Civics Education and Human Rights Education, Linguapax, Associated Schools Project Network, General Secondary School Curricula and Teacher Training Materials, Science and Technology Education and Project 2000+, SEMEP- South Eastern Mediterranean Sea Project, UNEVOC- International Project on Technical and Vocational Education, World Teachers' Day 1998, UNESCO and the Elimination of Illiteracy, International Literacy Day, MINEDAF VII, Working Group on Education Sector Analysis (WGESA), Environmental Education, in: http://www.unesco.org/education/educprog/prog_idx.htm (1 April 1999)

and the requirements to be fulfilled in respect of such skills."[12]

UNESCO's work in the field of vocational education is essentially of a statutory nature. The *Recommendation on vocational education* which was adopted in 1962 was revised in 1974. In 1987 the first global congress on vocational education was held, at which the draft of a *Convention on Vocational Education* was tabled. This was approved in 1989 and ratified in 1991 by the Federal Republic of Germany, amongst others.

In organisational terms, vocational education within UNESCO has been upgraded. In 1992 the *UNESCO Technical and Vocational Education Project* (UNEVOC) was set up. In parallel to this development it would appear that the *Division for the Renovation of Secondary and Vocational Education (ED/SVE)* has become more sharply focused on general questions of vocational education. New subject areas have been introduced, and are organised on an interdisciplinary basis. Currently an attempt is being made to involve NGOs more closely with projects.[13] The *Section for Science and Technology Education* (http://www.unesco.org/education/educprog/ste/framework/activities.html (6 April 1999) (1996-1997) already did this in its 1996/1997 programme[14].

The task profile of the UNEVOC project is as follows:

1. International exchange of ideas, experience and studies on policy issues;

2. Strengthening of national research and development capabilities;

3. Facilitating access to data bases and documentation; strengthening of the UNEVOC Network (http://www.unevoc.de/workplan/wp9899-e.htm (6 April 1999).

The board for the UNEVOC project has recommended that the work should continue even once the pilot stage has come to an end (http://www.unevoc.de/events/ev9703hq.htm (27 April 1999). Colin N. Power, Deputy Director-General for Education, made a statement at the second international congress on vocational education in Seoul in 1999, by which UNEVOC also feels bound.

'Partnerships and networking will also be critical to meet the challenges of globalisation and technological development. Working with the International Labour Organisation and the World Bank, we must adopt an integrated approach to TVE, a vital component of any development programme. At the national level we must encourage ministries of education and labour to combine their theoretical knowledge and practical training and to work closer together for their mutual benefit'. (http://www.unesco.org/education/educnews/99_03_11/letter.htm

Specific research opportunities in the field of vocational education

Monetary Backing

In UNESCO's 1998/99 budget some 86.7 million US$ are earmarked for the scientific programme from the ordinary budget, with an additional 62 million US$ in the extra-budgetary provision. The MOST programme – Management of Social Transformations – lies at the heart of social scientific research. Individual fields of research are as follows:

1. Change in multi-cultural and multi-ethnic societies;

2. towns as places with accelerated processes of social change and migration issues; and

3. local and regional management of economic, technological and ecological change.

Projects which fulfil the following criteria may be presented in the framework of these areas of research:

[12] Memorandum from the ILO and UNESCO of 14.10.1954 quoted from: H Krönner: Der Weg zur Berufsbildungs-Konvention der UNESCO, in: UNESCO today III (1992), p. 238.

[13] Greater account should be taken of themes such as the environment, health, nutrition and social relations in general.

[14] Amongst other things a 6 year project on Scientific, Technical and Vocational Education for Girls in Africa is being run at the present moment.

'Research projects are expected to be comparative, inter-disciplinary, international and relevant to policy. They must be conceived and implemented by groups or networks of researchers in several countries. They must be internationally structured, well coordinated, and cover a broad scope. This implies a solid project framework, as well as a clearly identified cooperation procedure between the groups of researchers. The project proposal must state clearly why a comparison between the countries selected is likely to produce important knowledge for scientific questions and for the political decision-taking process.' (quoted from: http://www.unesco.de/Info/Shs.htm#zurück (26 April 1999))

There is also another interesting option for smaller scale projects. Every two years the national UNESCO offices offer Partners hip Programmes. 25,000 US$ is granted per project. The choice of subject is free.

Instruments

With the International Standard Classification of Education (ISCED) UNESCO has tried to create an instrument which serves 'as an instrument for assembling, compiling and presenting statistics of education both within individual countries and internationally'. (International Standart Classification of Education. ISCED 1997)

The ISCED classification was revised in 1997. Initial vocational training in the secondary sector is classified as ISCED level 3, whilst vocational training in the tertiary sector comes under ISCED level 5. The aim of this is to 'make existing international statistics on education more transparent' (Statistisches Bundesamt Wiesbaden 1997, p. 8)

Communications

For scientists working in the vocational education sector UNEVOC is /is becoming a central communications interface. The following interactive activities are currently up and running:

- A mailing list – the UNEVOC E Forum (http://www.unevoc.de/forum.htm (6 April 1999) – which can be used for the general, interactive exchange of information;
- UNEVOC-Info (a free E-journal)[15];
- UNEVOC Network covers UNEVOC centres in the UNESCO member states[16];
- Publications[17].

Materials

Materials which are of relevance to vocational education can be consulted using the following databases:

- *Innodata* (http://www.software-engineering.ch/Infobases/IBE/InnoData/ (6 April 1999)

  The emphasis of the data files is on reports on innovative concepts/projects in the primary and secondary sectors;
- *UNESBIB* (http://unesdoc.unesco.org/ulis/unesbib.html (6 April 1999)

  Bibliography of UNESCO printed documents and publications (reference database);
- *UNESDOC* (http://unesdoc.unesco.org/ulis/ (6 April 1999)

[15] UNEVOC INFO No. 4/1998, Contents: Regional Conferences to prepare for the Second International Congress on Technical and Vocational Education, Seoul, Republic of Korea; UNESCO-OEEK Symposium on Vocational Education and Training (Greece); International Conference on New Developments and Models of Reform with focus on South East Asia (China); Information Technology and Technical and Vocational Education; National Seminar on Technical and Vocational Education (Republic of the Congo), http://www.unevoc.de/uc-info/toc-e.htm (6 April 1999).

[16] The address list can be called up under: http://www.unevoc.de/direct/directory.htm (6 April 1999).

[17] Many publications are already available as pdf-downloads, http://www.unevoc.de/publicat/public00.htm (6 April 1999).

UNESDOC contains documents from UNESCO bodies (General Conference, Executive Board, Director etc. (full text database);

- *World Data on Education* (http://www.ibe.unesco.org/Inf_Doc/Nat_reps/natdb96.htm (6 April 1999)

  Country profiles can be looked up in this database (full text database).

4.3 International Labour Organisation (ILO), by Heike Maier and Heinz Bartel

Framework conditions

The International Labour Organisation (ILO) (www.ilo.org (17 May 1999) Delimitation from UNESCO, see above) which was founded in 1919 is the only UN Organisation whose bodies are composed on a tri-partite basis of representatives of governments, employers and workers. The ILO lays down statutory requirements in conventions and recommendations in the field of labour law, contractual and organisational freedom, abolition of forced labour, etc. *Training* is one of the organisation's main priorities. This can be seen for example in ILO Convention 142 (1975) on *Vocational Guidance and Training in the Development of Human Resources* and in Convention no. 159 (1983) on *Vocational Rehabilitation and Employment (Disabled Persons)* (www.ilo.org/public/english&60mpfor/over.htm (17 May 1999)). But it also provides concrete support in the fields of vocational education, rehabilitation, labour market policy, labour administration, working conditions, labour law, etc. The organisation's budget for these tasks amounted to 79,500,000 US$ in 1996/97 (1998/99 estimated 569,080,000 US$) (http://www.ilo.org/public/english/200progr/pb/98/draftbud.htm (17 May 1999)).

Field programmes, technical programmes and action programmes are conducted. The *field programmes* are represented by continental/regional institutes. The South American region is one of the most active here with the CINTEFOR research and documentation centre and MERCOSUR[18]. The action programmes are basis-oriented and run across the field and technical programmes.

The *technical programmes* are thematically structured operational units (http://www.ilo.org/public/english/depts/depts.htm (17 May 1999), http://www.ilo.org/public/english/130inst/index.htm (17 May 1999)). The units include the International Institute for Labour Studies (http://www.ilo.org/public/english/10ilc/ilc83/dg-repc.htm#Heading10 (19 May 1999)) and the International Training Centre. The former deals with international labour market research, the Turin-based Training Centre provides amongst other things (further) training for officials from educational administrations, trade unions, etc.

Vocational education

The ILO's main task is that of:

'[...] developing the policy-making capacity of governments, employers' and workers' organisations and strengthening dialogue and co-operation in the field of training. These activities took the form of the dissemination of information to constituents, policy dialogue and the provision of advisory services.' [19]

A survey was conducted in co-operation with the World Bank, looking at the 'best practice in training policies' in 15 countries in the process of transformation.[20] Plenty of advice and technical support was also offered or provided relation to the implementation/further devel-

[18] SEAPAT is the Asiatic counterpart of CINTERFOR, although it has not yet achieved the level of professionalism and quality of the latter. http://www.ilo.org/public/english/mdtmanil/index.htm (18 May 1999).

[19] Constraints and innovations in vocational training reform (a joint World Bank/ILO publication) (in preparation).

[20] Country studies were drawn up for Indonesia, Tunisia, and China. http://www.ilo.org./public/english/10ilc/ilc83/dg-repc.htm#fn35 (19 May 1999)

1443

opment/assessment of national training systems.[21]

The *Employment and Training Department* (EMP-FORM)[22] with its *Training Policies and Systems Branch* (POLFORM) has overall responsibility for vocational education. (http://www.ilo.org/public/english/60empfor/polform/over.htm (18 May 1999)) A total of 28,000,000 US$ was available from the ordinary budget in 1998/99 (1996/97: 28,000,000 US$). The following projects were amongst those implemented (in partial co-operation with the regional bureaus):

- *Training Policies and Systems*
  'The objective of the technical programme... is the improved capacity of ILO member countries to design and put into work-related training policies and systems, contribution to human resource development as a critical element in achieving economic growth and social equity'.[23]
- *Training Policy Reforms: The Evidence*
  This project was conducted in collaboration with the World Bank. Resistance to and innovation related to reforms in the vocational education field were documented in 17 countries.[24]
- *Management of Vocational Education and Training*

  This research project produced a handbook edited by Vladimir Gasskov.

  'It (the handbook) provides state-of-the-art knowledge relating to managing and organising vocational education and training (VET) systems and draws upon lessons from experience, current trends, and best practice in the administration of public training service around the world.' (http://www.ilo.org/public/english/60empfor/polform/prog10.htm (18 May 1999))
- *Evaluation of Training*

  W. Norton Grubb (University of California at Berkeley) and Paul Ryan (University of Cambridge) attempt to provide an overview of theory and practice in the field of assessment in this research project.[25]
- *Strategic Partnership in Training*

  A research project on the role of the state and of companies.

  'The study indicated that effective partnerships require not only a favourable policy environment and incentives but also greater capacity of the social actors involved, particularly employers and workers and their organisations. This means, inter alia, strengthening worker/employer perspectives- policies, strategies and mechanisms- in order to enable worker and employer organisations to participate more effectively in the governance of training systems and to deliver information and services for their affiliates.' (http://www.ilo.org./public/english/60empfor/polform/prog7.htm (19 May 1999))

[21] Additional programmes: Employers Activities, Enterprise and Cooperative Development, Equality for Women, Multinational Enterprises, Statistics etc., see http://www.ilo.org/public/english/depts/depts.htm (17 May 1999).

[22] The former departments for Training Policies and Programme Development and the Vocation Training System Management were dismantled as a result of restructuring.

[23] Gill, Indermit/Flutman, Fred (Publ.): Constraints and Innovation in the Reform of Vocational Education and Training, no page, no year. The countries looked at were: Chile, China, Czech Republic, Egypt, Hungary, Indonesia, Jordan, Kazachstan, South Korea, Malaysia, Mexico, Poland, Russia, South Africa, Tanzania, West Bank/Gaza, and Zambia. http://www.ilo.org/public/english/60empfor/polform/prog6.htm (18 May 1999).

[24] 10 countries were studied: Australia, Belgium, Brazil, Canada, Denmark, France, Pakistan, South Korea, United Kingdom, United States. http://www.ilo.org/public/english/60empfor/polform/prog6.htm (18 May 1999).

[25] http://www.ilo.org./public/english/60empfor/polform/prog5.htm (19 May 1999). 26 countries were looked at: Australia, Chile, Denmark, France, Germany, India, Ireland, Ivory Coast, Japan, Malaysia, South Africa, Spain, United Kingdom, United States.

As a result of this research project POLFROM is currently developing an 'Action Programme on Social Dialogue on Training' which should give rise to new, innovative forms of co-operation between the social partners.

- Training Policy Analysis: A methodology (*http://www.ilo.org./public/english/60empfor/polform/prog12.htm* (19 May 1999))

'While training systems and training issues differ considerably from country to country, it was felt that, as in the case of a doctor examining a patient to cure an ilness, the method of arriving at sensible policy options need not vary across borders. It was consequently decided to try and develop, on the basis of practical experience, a methodology of training policy analysis in a format suitable for use in workshops and seminars targeted at training system officials in general, and at training policy analysts in particular. (...) A training package, containing six modules, has therefore been developed in the form of an elaborate, computer-aided slide show, using MS-Power Point.'

- *Skills Training and Employment in Conflict-Affected Countries*[26]

Research opportunities in the field of vocational education

- Instruments/statistics (http://www.ilo.org./public/english/120stat/class/index.htm)

Analogous to the ISCED classification, the ILO provides the following classifications: (http://www.ilo.org./public/english/190bibl/dblist.htm)

- International Standard Classification of Occupations (ISCO)
- International Classification of Status in Employment (ICSE)
- International Standard Industrial Classification of all Economic Activities (ISIC)
- Classifications of occupational injuries (formerly industrial accidents)

- Materials

Materials which can be of relevance to vocational education can be called up via the following online databases: (OECD Annual Report 1999)

- ILODOC
  Database containing more than 50,000 files. ILO material is indexed in three languages. Monthly update (reference database).

- ILOTERM
  Glossary for English, French, Spanish and German specialist terms from the vocational sphere

- NATLEX (ILIS)
  Database which documents national labour law

- LABORDOC
  The database, which contains all the material from the ILO's documentation centre (including non-ILO documents), is currently not available online. A CD-ROM is being prepared for 1999.

4.4 Organisation for Economic Co-operation and Development (OECD), by Brigitte Steinert and Heike Maier

Framework conditions

The Organisation for Economic Co-operation and Development (OECD) which is based in Paris was founded in 1961. Its 29 member states are amongst the richest countries on earth. Its role is to promote economic development, employment and living standards and to contribute to the development of the

[26] The subjects of basic labour statistics include the economically active population, unemployment and underemployment, average earnings and hours of work, time rates of wages and normal hours of work, labour cost, consumer price indices, household expenditure and household income, occupational injuries and occupational diseases, and industrial disputes (strikes, lockouts and other action due to labour disputes) http://www.ilo.org./public/english/120stat/index.htm (20 May 1999).

world economy and world trade. The organisation sees its main task as being the planning, coordination and intensification of economic co-operation and development, encouraging economic development with full employment and monetary stability. The OECD's current annual budget amounts to 200 million US$, contributed by member states in proportion to their ability to pay. Around 80% of this budget goes in staffing costs. (78) Besides this core budget, countries may also participate in specific projects or programmes on a voluntary basis. Overall there are more than 200 committees, working parties and expert groups which ascertain statistical data, collect, assess and make it available to the public in co-operation with the Secretariat in Paris.

General and vocational education

UNESCO, EUROSTAT and the OECD co-operate under the aegis of the OECD to achieve the international comparability of Within the OECD questions on general and vocational education are mainly handled in the Department for Statistics and Indicators in the OECD's Directorate for Education, Employment, Labour and Social Questions. Promotion and support for the development of research activities and the introduction and testing of innovations in the education sector is carried out by the *Centre for Educational Research and Innovation (CERI)* which was set up in 1968.

Current OECD activities related to educational development and research are concentrated in particular on the areas of educational statistics, developing a framework concept for the international comparison of education systems, and the international comparative measurement of student performance. Since 1992 the OECD has been producing a series of educational indicators – 'Education at a Glance – OECD Indicators'- on a yearly basis, as well as investigations into individual questions on the indicator table as 'Education Policy Analysis'. Within the INES network (indicators of education systems) the individual member states work on and support the drawing up of indicators for central areas of the education sector, priorities may change and include: the demographic and social context, educational expenditure and staffing, costs and returns, participation in education, decision-takers and structures, student performance and diplomas, employment figures. From an analytical point of view for the industrialised nations which belong to the OECD, this collection of statistics and indicators is much more highly differentiated than are UNESCO's Statistical Yearbooks.

the databases and classification systems in the INES framework. The 'International Standard Classification of Education' (ISCED) which was produced in 1976 by UNESCO's educational statistics department and which has served to collect, collate and publish national and international educational statistics, has since been updated by the OECD and published under the title 'Classifying Educational Programmes, Manual for ISCED-97. Implementation in OECD Countries'. The Programme for International Student Assessment (PISA) is also based within the INES indicator programme. PISA aims at providing participating states with comparative data on the efficiency of their education systems. For this purpose, starting in the year 2000, the skills of 15 year old students which are essential to a successful life style will be assessed at 3-yearly intervals. The emphasis will change each time round, but the areas to be covered are reading comprehension, maths, science, and cross-subject skills.

Bibliography

Baumert J., Lehmann R. et al., 1997. *TIMSS-Mathematisch-naturwissenschaftlicher Unterricht im internationalen Vergleich.* Opladen: Leske + Budrich.

Baratta M. von, 1997. *The Fischer World Almanac 1998.* Frankfurt

Beck K., 1995. Theoretical approaches. *In:* Arnold, Lipsmeier, eds. *Handbuch der Berufsbildung*: Opladen: Leske + Budrich.

Betcherman G., McMullen K., Davidman K., 1998. *Training for the new economy.* A Synthesis Report. Ottawa: Renouf Publishing Co. Ltd.

Canadian Education Association, 1995. *Inventory of educational research units in Canada.* Toronto: Canadian Education Association.

Canadian education Association, 1995. *Setting the priorities: A synthesis of research need, substance and process.* Report of a K-12 research workshop. Toronto.

Cedefop, ed., 1998. *Vocational education and training – the European research field. Background report 1998, Volumes I and II.* Luxembourg: EUR-OP.

Chinien C.A., Oaks M.M., 1995. A national census on technology education in Canada. *Journal of industrial teacher education*, **32** (2), pp. 76-92.

Clark W., 1991. *The Class of 1986. A compendium of findings of the 1988 national graduate survey of 1986 graduates with comparisons to the 1984 national graduate survey.* Ottawa.

Dietsche P., 1998. C.O.M.P.A.S. *College outcomes management and performance analysis system* Toronto.

Fagan L.P., Spurrell D., 1995. *Evaluating achievement of senior high school students in Canada. A study of policies and practices of Ministries and School Boards in Canada.* Toronto: Canadian Education Association.

Gaskell J., 1995. *Secondary schools in Canada.* The National Report of the Exemplary Schools Project. Toronto: Canadian Education Association.

Glendenning D., 1995. *Dacum Roots.* Ottawa.

Gunderson M., Sharpe A., eds., 1998. *Forging business-labour partnerships. The emergence of sector councils in Canada.* Toronto, Buffalo, London: University of Toronto Press.

Heipel D., Schmidt M., Vollmer D. *Documentation on vocational education in Uruguay.* Unpublished.

Hilker F., 1962. *Vergleichende Pädagogik. Eine Einführung in ihre Geschichte, Theorie und Praxis.* Munich: Hueber.

Holmes B., 1974. Vergleichende Erziehungswissenschaft als wissenschaftliche Disziplin. *In:* Busch A., Friedrich W., Krüger B., Krüger-Portratz M., eds. *Vergleichende Erziehungswissenschaft. Texte zur Methodologischen Diskussion.* Pullach bei München: Verlag Dokumentation, pp. 115-132.

Human Resources Development Canada, 1998. *Automotive service technician.* Ottawa.

Human Resources Development Canada, 1996. *National occupational classification.* Career Handbook. 2 Volumes. Ottawa.

Human Resources Development Canada, 1995. *Occupational standards development Process.* Ottawa.

International Standard Classification of Education. ISCED 1997 (November 1997). Download under: http://unescostat.unesco.org/Documents/isced.asp, Foreword, (14 April 1999). Gives the definitions of the various ISCED levels.

D'Iribarne A, D'Iribarne P., 1999. The French education system as the expression of a political culture. *Vocational Training*, 17, pp. 25-37.

Krahn H., 1996. *School-to-work-transitions. Changing patterns and research needs.* Discussion paper prepared for Applied Research Branch, Human Ressources Development Canada. Alberta.

Lanzendorf U., Huck W., Schreiber-Einloft M., 1996. Brazil. *In:* Lauterbach U., ed. *International Manual of Vocational Education.* Baden-Baden.

Lanzendorf U., 1997. Argentina. *In:* Lauterbach U., ed. *International Manual of Vocational Education.* Baden-Baden.

1452

Lipsig-Mummé C., 1996. *Bridging the solitudes: Canadian perspectives on research partnerships in the new work order.* Paper presented to ANTARAC annual conference, Melbourne, October 31- November 1, 1996. Toronto.

Little D., Lapierre L., 1996. *The class of 90. A compendium of findings from the 1992 national graduates survey of 1990 graduates.* Ottawa.

Loxley W., 1994. Comparative and international education: Organisations and institutions. *In*: Husén, Torsten, Postlethwaite, Neville T., eds. *The International Encyclopedia of Education*. 2nd Ed. Vol.2, Oxford: Pergamon Press, pp. 933-942.

Masemann, Vandra, L., 1994. Comparative Education Societies. *In*: Husén, Torsten, Postlethwaite, Neville T., eds. *The International Encyclopedia of Education*. 2nd Ed. Vol.2, Oxford: Pergamon Press, pp. 942-948.

National Centre for Research in Vocational Education, University of California, Berkeley, http://ncrve.berkeley.edu/Default.html.

OECD 1992, 1998. *Education at a Glance 1992 and 1998*. Paris 1992 and 1998.

OECD, *Annual Report 1999*, in: http://www.oecd.org/publications/98_rep/ (28 June 1999).

Von Recum H., 1997. *Bildungspolitische Steuerung oder die Kunst, das Unmögliche möglich zu machen.* Research report by the German Institute for International Educational Research (DIPF). Frankfurt am Main.

Samoff J., 1993. The reconstruction of schooling in Africa. *Comparative Education Review*, **37** (2), pp. 181-222.

Schneider F., 1961. *Vergleichende Erziehungswissenschaft. Geschichte, Forschung, Lehre.* Vergleichende Erziehungswissenschaft und Pädagogik des Auslands, Heidelberg: Quelle und Meyer, 218.

Sharpe A., Haddow R., eds., 1997. *Social partnerships for training. Canada's experiment with labour force development boards.* Kingston, Ontario: Queen's University.

Statistisches Bundesamt, ed., 1997 *Internationale bildungsstatistische Grundlagen. Comparison of the education systems in certain European countries, with particular emphasis on vocational education and higher education.* Stuttgart.

Tessaring M., 1998. *Training for a changing society. A report on current vocational education and training research in Europe 1998.* Cedefop. 2nd edition, Luxembourg: EUR-OP.

Textiles Human Resources Council, 1996. *Human resource needs analysis of the Canadian textile industry.* 'Investing in People' Ottawa.

Vorbeck M., 1997. Bildungsforschung. *In*: Kodron C., von Kopp B., Lauterbach U., Schäfer U., Schmidt G., eds. *Vergleichende Erziehungswissenschaft: Herausforderung-Vermittlung-Praxis* (Comparative education: Challenge – transfer – practice); Commemorative Volume for Wolfgang Mitter on his 70th birthday. Cologne, pp. 282-297.

Watson K., 1996. Banking on key reforms for educational development: A critique of the World Bank Review. *Mediterranean Journal of Educational Studies*, **1** (1).

Wilson D.N., 1997. *Reform of technological education in Canada.* Toronto.

Wilson D.N., 1994. What Education for which Future. A comparative Perspective. *Canadian and International Education*, **23** (2), pp. 27-60.

World Bank Annual Report 1997, in: http://www.worldbank.org (9 March 1999), p. 18.

World Bank Annual Report 1998, in: http://www.worldbank.org (9 March 1999), p. 69.

Annex: Addresses of national research institutions, international scientific societies and international organisations[27]

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[27] Although compiled carefully, the information given here does not claim to be complete or without any mistakes. Since the manuscript was finalised by autumn 1999, addresses, persons and tasks may have changed in the meantime.

1454

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Strategic research networks in education and training des SSHRC:
Overview:
http://socserv2.mcmaster.ca/srnet/srnet.htm

NALL: New Approaches to lifelong learning: lifelong linking of formal, nonformal and informal learning: current practices, social barriers and new approaches
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EvNet: Network for the evaluation of education and Training technologies
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E-mail: cuneo@mcmaster.ca ; Carl.Cuneo@LRSH.mcmaster.ca
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WRNET: The western research network on education and training: the link between educational provision, processes and outcomes
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Relations formation emploi: analyse des modes de collaboration entre les partenaires de la formation, des effets sur leur organisation et des résultats pour les apprenants
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Human Resources Development Canada
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Hull, Quebec
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620012 Ekaterinburg
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1456

Switzerland

See Swiss Text (Chapter 2.6).

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http://www.cinterfor.org.uy

Biblioteca Nacional de Maestros y Centro Nacional de Información Educativa
Pizzurno 935 P.Baja, 1020 Buenos Aires
Fax: 0054-1 811-0275

Independent supra-regional and international scientific societies and research institutes

International Association for the Evaluation of Educational Achievement (IEA)
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E-Mail: Department@iea.nl
URL: http://uttou2.to.utwente.nl

International organisations and their research and documentation institutes

Organisation for Economic Co-operation and Development (OECD)

OECD Headquarters (Int. Secretariat)
2, rue André- Pascal
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Tel. and Fax: (0033)1-45248200
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United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO Headquarters
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Tel.: (0033) 1-45681000
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International Labour Organisation (ILO)

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ANNEX:

VET related research on behalf of the European Commission

1458

Research on vocational education and training in the current research framework of the European Commission

Lieve Van den Brande

1459

Table of contents

Introduction 379

1. Description of the key action: 'improving the socio-economic knowledge base' 379
1.1 Introduction 379
1.2 Rationale and objectives of the key action 380
1.3 Thematic framework for this key action 381
Societal trends and structural changes 381
Technology, society and employment 381
Governance and citizenship 381
New development models fostering growth and employment 382

2. Research on vocational education and training 382
2.1 From TSER to the key action – Research clusters 382
2.2 The cluster on 'schooling, training and transitions and its impact on the low skilled and youth unemployment' 383
2.3 Cluster of RTD projects on 'human resource development and competence development in Europe' 385

1466

Introduction

Vocational education and training has not only been an issue for training, social and employment policies, but is also of paramount importance within the research framework.

Many questions and issues are still unsolved and indicate the necessity for coordinated comparative research for national and European policy making. What are the pathways and bridges between learning and work in Europe and how can they be developed? How do learning strategies and policies integrate with new trends in employment and work?

These research questions – among many others – are addressed in the key action on: 'Improving the socio-economic knowledge base' under the *horizontal programme: 'Improving the human research potential'*[1] *of the fifth framework programme (FP5) for research, technology and development (RTD).*

The horizontal programme 'improving the human research potential and the socio-economic base', or human potential as it has become known, has evolved from the research priorities addressed by two former programmes 'training and mobility of researchers' (TMR) and 'targeted socio-economic research' (TSER)[2].

The human potential programme for 1998 to 2002 consists of five distinct actions[3]*. Through these activities the programme is at the forefront of enhancing European mobility and cooperation in recognition of the essential role played by education and training:*

a) *supporting training and mobility of researchers* implemented through two lines: research training networks and Marie Curie fellowships;

b) *enhancing access to research infrastructures*, implemented through trans-national access to major research infrastructures, infrastructure cooperation networks and research infrastructure and research infrastructure RTD projects;

c) *promoting scientific and technological excellence*, implemented through high-level scientific conferences, distinctions for high-level research work and raising public awareness activities;

d) *support for the development of scientific and technology policies in Europe*, implemented through strategic analysis of specific political issues and the establishment of a common basis of science, technology and innovation indicators;

e) the key action on *'improving the socio-economic knowledge base'*, helping to provide a solid research foundation towards a 'Europe of knowledge'.

The research outcomes on 'vocational education and training', all refer to research projects under the key action and its former programme 'targeted socio-economic research'.

1. Description of the key action: 'improving the socio-economic knowledge base'

1.1 Introduction

The key action 'improving the socio-economic knowledge base'[4] is one of the action lines of the horizontal programme: 'improving human potential and the socio-economic knowledge base' of the fifth framework programme (FP5) for research, technology and development

[1] Council Decision 99/173/EC of 25 January 1999 – OJ L 64, 12.3.1999, p. 105. In addition, Council Decision 99/65/EC concerning the rules for the participation of undertakings, research centres and universities and for the dissemination of research results for the implementation of the fifth framework – OJ L 26, 1.2.1999, p. 1.

[2] Council Decision 94/915/EC of 15 December 1994 – OJ L 361/77, 31.12.1994.

[3] For further information on the activities of the human potential programme see Website http://www.cordis.lu/improving.

[4] For further information on the key action, see website http://www.cordis.lu/improving.

(1998-2002). Its indicative budget is EUR 165 million.

The overall aim of the key action is to improve through research understanding of the major structural changes taking place in European society, to identify ways of managing these changes and to involve European citizens more actively in shaping their own future.

The key action utilises, builds upon and extends work carried out in the TSER (targeted socio-economic research) programme of the fourth framework programme (FP4). It is implemented through RTD projects, thematic networks, research infrastructures and various types of accompanying measures.

As well as improving the social science knowledge base, this key action aims to mobilise the social science research community in Europe and to develop a process of dialogue between this community, policy-makers at all levels and other key actors. Effective targeting and dissemination of results is a key feature. All the activities are expected to lead to policy relevant insights. As such the key action will help to sensitise policy-makers to the importance of socio-economic research.

1.2 Rationale and objectives of the key action

The European Union draws its strength both from the social and cultural diversities of its members as well as from the similarities of their experiences and common values. The Community also has a solid tradition of research in social and economic science and the humanities, which need to be mobilised to identify economic and social trends and requirements, both current and future, in order to contribute to the Community's competitiveness and quality of life of its citizens.

In a period of increasing challenges, such as unacceptable levels of unemployment, an ageing population, the globalisation of economies, an increase in inequalities, and a declining relative contribution to the world economy, European society will have to undergo changes towards achieving sustainable socio-economic development, the improvement of the quality of life of all its citizens and to maintain and enhance Europe's competitive position in the world. Social sciences must therefore be in a position to respond to these challenges, overcome national boundaries, through reinforcing cooperation and enhancing their analytical capacity and thereby supporting policy-making. Furthermore, the process of European integration has given rise to a new object of study – European society – which is different from the sum of its components, although clearly dependent on them.

The objective of this key action will be to improve our understanding of the structural changes taking place in European society in order to identify ways of managing change and to involve European citizens more actively in shaping their own futures. This will entail the analysis of the main trends giving rise to these changes, the analysis of the relationships between technology, employment and society, the impact of new technologies on working conditions, the re-appraisal of participation mechanisms for collective action at all levels of governance and the elaboration of new development strategies fostering growth, employment and economic and social cohesion.

This key action covers a number of subjects linked to the general objectives of the framework programme and aims at defining the base for employment – generating social, economic and cultural development and for building a European knowledge society. These subjects should not be seen in isolation, but as interrelated parts of a coherent and comprehensive framework.

Support will aim at developing a conceptual understanding of the processes described above, built upon empirical, comparative and prospective research, including constructing and integrating data and indicator systems and establishing a common research infrastructure. These activities will therefore contribute to provide the policy decision-making process with a sound knowledge of the challenges facing Europe, of their main consequences and of possible policy options to tackle them.

1482

1.3 Thematic framework for this key action

Societal trends and structural changes

Against a background of profound structural, demographic and social changes, research within this theme will aim at elucidating the complex interactions between societal trends, life chances, changes in family structures, economic changes, labour market institutions, cultural patterns and value systems, taking European regional diversities into account. The analysis will include the phenomena of xenophobia, racism and migration. Attention will be focused on the impact on economic development, social integration, social protection and factors of social inequalities and discrimination.

The study of these interactions will provide a better understanding of the changing patterns of work and organisation of time, of the use of new types of atypical and part-time or temporary jobs, of the capacity of education and training to prepare individuals over their lifetime to a changing environment and to enhance knowledge of the gender issue in European society. Research work will provide a sound knowledge base and contribute to the formulation and development of the relevant European policies.

Technology, society and employment

Research under this theme aims to understand better the relationship of interdependency and embeddedness between technology and society and to contribute to an integrated approach to planning and development. While the need for integrating social, institutional and environmental concerns in the technological development process is now accepted, the possible options vary according to different kinds of technologies, the state of their development and diffusion in society. Research will be undertaken on methods of interaction between the various actors concerned – suppliers, users, advisory bodies, decision makers and public authorities. An improved understanding of the deployment and the impact of technologies in various socio-economic, territorial, institutional, political and cultural contexts in the Union is expected to arise from this work. Research will also examine the role of the public sector in the innovation process and how authorities interact with other partners.

Attention will be paid to the relationships between technology and employment, in particular the new information and communications technologies and the new ways of organising production and labour, including newly emerging professions, the geographical location of employment, changes in working conditions and in workforce skills. The role of innovation in education and training, the concept of lifelong learning, as well as how education and training can stimulate innovation, promote employment, social integration and equal opportunities, will also be examined.

Governance and citizenship

In the context of European integration, there is a need to reassess the role of the different levels of governance in Europe (local, regional, national and supranational). The aim will be to analyse the mutual articulation of responsibility and accountability at all levels and their real capacity as agents of change, whilst allowing for the development of mechanisms of dialogue, deliberation and decision-making to ensure effective cooperation between all the actors concerned.

Research will set out to explain to what extent the various types of economic and social regulation in Europe are the consequences of a specific socio-institutional and cultural construction, in order to define better European integration strategies. It will address both regulation by public authorities as well as civil initiatives and structures such as political parties, public interest groups and social partners. The examination of the role of public authorities will also cover the reassessment of their missions, and of the concept of public service and the notion of public interest. In this framework, analysis of the evolution of welfare systems will be a key element. In these analyses of governance, the notion of political, economic and social power will also be taken into account.

The analyses will be accompanied by the study of the concept of citizenship across Europe, and of types and systems of participation of citizens and regulation to which they give rise. Research will also analyse the influence of the various components of culture (traditions, language, history, heritage, religions, migrations) and of educational models on the development of values. Analysis at the level of the individual could complement, where appropriate, research in this area. The role of media in a global economy, in which international audio-visual cultural products are increasingly present, will also be examined. The analyses will examine the interrelationships between governance and citizenship.

New development models fostering growth and employment

This prospective work will seek to explore new sustainable development models to foster growth, job creation, equal opportunities, the reduction of inequalities and the improvement of quality of life. It will investigate the dynamics of creation and distribution of wealth and the role of the public sector in this context in a globalised economy where 'intangible' and service factors predominate. This will involve the development of indicators and methodologies for assessing the social and economic added value of various production models, identifying competitiveness factors including human capital, and characterising the different policies best adapted to the European economic area, taking into account Europe's regional divergences, and to the evolution of Europe in world economic relations.

Research will concentrate on analyses of issues such as organisational innovations, new types of work and employment including the working potential of the older population, responses to the increasing demand for services, the development of non-profit mutual support activities, and innovations in socio-economic partners cooperation. Socio-economic and demographic differences across Europe and the impact of the development models on economic and social cohesion will be included.

2. Research on vocational education and training

2.1 From TSER to the key action – research clusters

The key action utilises, builds upon and extends the work carried out in the TSER (targeted socio-economic research) programme[5] of the fourth framework programme (FP4) (1994-98). TSER invited proposals for research from the European research community on three main areas of economic and social research:

a) science and technology policy,

b) education and training (ET) and labour market integration,

c) social integration and social exclusion.

The increasingly severe economic and social problems facing European societies required a more coordinated and better funded and targeted research and policy response than before. The main objective of the TSER (1994-98) programme therefore was to build up both the knowledge base and research infrastructure for high quality, policy relevant, comparative European socio-economic research at both national and Community levels.

In Area II, research in education and training, the objective was to help link advances in science and technology and rapid economic/ technological change to the effectiveness of the link/ relationship between ET systems – in building up human capital, labour market entry and in-firm insertion/ training processes for attracting and using high quality labour.

Within this broad area of research the programme had three main objectives – to strengthen the European research base and improve communication and networking amongst European researchers, to develop and strengthen the knowledge base and to

[5] Council Decision 94/915/EC of 15 December 1994 – OJ L 361/77, 31.12.1994.

improve its quality and comparability, and to help apply it to the challenges facing European economies and societies.

There were three main objectives of TSER Area II (research in education and training):

a) the nature and extent of skill change and of labour demand in the economy and the effectiveness and nature of the responsiveness of ET systems to these changes;

b) the development of ET effectiveness/ evaluation models and methodologies – both in terms of conventional schooling/ training and in lifelong learning/ instructional arrangements;

c) transitions from school to work, and the nature and extent to which ET systems and their relationships with employment systems positively or negatively affect inclusionary or exclusionary processes.

The implementation of the TSER programme under FP4 and the key action 'improving the socio-economic knowledge base' under FP5 is achieved through calls for proposals. The former TSER programme was implemented through three calls for proposals; the key action socio-economic research has already launched one call and two or three others will follow. To date more than 200 projects have been funded[6].

In order to create synergies and improve added value, these projects have been assembled in a certain number of groups, covering a wide range of relevant themes for research and policy.

Various clusters are actually running and working on issues such as systems of innovation, work, knowledge and the economy; technology and society, employment, work, welfare and exclusion, etc.

Two of these clusters touch on the issue of vocational education and training:

a) 'schooling, training and transitions and its impact on the low skilled and youth unemployment';

b) 'human resource development and competence development in Europe'.

2.2 The cluster on 'schooling, training and transitions' and its impact on the low skilled and youth unemployment

From a societal perspective, a growing interest in knowledge and learning is emerging. Issues such as mobility and employability, often stimulated by governments, drive citizens to invest in personal growth in knowledge and competence in order to create better job positions for now and the future. Therefore tools that help citizens to attain these goals have become important not only at the industry level, but also at the societal level.

The education/ employment relationship and the transition from school to work has been the subject of substantial research under the TSER programme. More than 25 research projects of FP4 and first call projects of FP5 are exploring and analysing in depth research topics in relation to 'the dynamics of education to work transitions in Europe and its impact on the low skilled and youth unemployment.' Clustering work will allow researchers, policy-makers, practitioners and the general public to learn from the work going on within the RTD projects.

These topics have been initiated following concerns raised by policy-makers. First, most European countries have had persistent high youth unemployment rates for almost two decades, with the time between leaving full-time education and securing a regular job also increasing significantly. With a substantial proportion of young people entering the labour market (LM) either never finding secure employment or being intermittently unemployed – particularly those with the lowest qualifications– both policy-makers and researchers have focused a lot of attention on the initial school-to-work transition process. Initially, substantial State investments occurred in LM interventions such as State employment and training programmes, but

[6] TSER project synopses 1994-98 (three calls for proposals), 358 pages (1999). Key action project synopses 1998-2002 (first call of proposals), (February 2000).

gradually these shifted to more active and more effective labour market intervention, as the long-term secular rather than temporary nature of the labour market problem became increasingly apparent. As a result, in many European Union (EU) countries participation in such State programmes became a regular feature of many young people's transition between leaving full-time initial education and either getting a regular job or effectively withdrawing from active participation in the labour market. Besides the immediate social consequences of this, these issues remain highly relevant to policy since, when economic growth resumes, countries will need to ensure the workforce is in employment as there are generally low replacement rates. Even today, labour shortages have emerged in some countries, so that national and EU policies need to be geared to address the medium to long-term effects of declining demographic trends with improving economic growth.

Second, besides the current employment crisis, a rapid upgrading of education and training (ET) is required in most EU countries given the poor competitive position of EU countries for low- skilled production and high global competitiveness for high-skilled production and services, particularly from the USA and Japan.

Given these policy priorities, transition from school to work and more particularly how to overcome youth unemployment and low skills through education and training, has become a very important policy issue in most EU countries. One of the main policy research questions remains whether there is one or a number of different and equally effective solutions to these problems in different EU countries.

The underlying sources of these difficulties in different country labour markets within the EU are difficult to disentangle. They are not equally serious in all countries. They also tend to have different patterns in different countries, and there is no agreement on the exact source of the relative lack of job vacancies for young people. Successful policy interventions also tend to differ across countries. Not all EU countries reacted the same way to the crisis, nor do or can they have the same kind of effective policy solutions: the seriousness and nature of the problem varies across countries; countries have different youth/ age profiles, somewhat different economies, and clearly different institutional systems.

In these circumstances, comparative cross-country research is of particular interest to learn to what extent and why some policies may be generalised, while others appear to be effective only in particular country/ institutional contexts. This requires that research should aim at a clear understanding of the impact(s) of institutional contexts on education and training (ET) and labour market (LM) outcomes.

The main aims of this cluster of TSER projects on transitions from education to working life are as follows:

a) the cluster reviewed the main research findings, conclusions and general direction of the targeted socio-economic research (TSER) programme under the fourth framework programme of Directorate General on Research, dealing with research on education/ employment/ social exclusion relationships and, in particular, transitions from education to work in Europe and places it in the context of the wider research literature and policy priorities in the area;

b) the cluster highlighted the main areas where policy needs are well served by research, and other areas where research is poorly developed;

c) the cluster of RTD projects suggests the main areas of research and policy analyses that need to be addressed in the future.

For this cluster close cooperation and coordination was established with Directorate General on Education and Culture to enhance the link between research and ET policies, especially on issues such as employability and the contribution of vocational education and training to innovation and on actions targeted at young persons who left the education system too early without qualifications.

2.3 Cluster of RTD projects on 'human resource development and competence development in Europe'

Human resource development and competence development in organisations has been a subject of substantial research under the TSER programme in more than 17 research projects of FP4 and first call projects of FP5.

It is a fundamental principle of European economic and social policy-making that prosperity and employment growth in the EU is dependent upon creating and sustaining a highly skilled and adaptable workforce. The European approach on the whole has tended to regard high skills, training, good internal communication and a consensual organisational regime as a part of the competitive advantage of firms. In this context, the concept of the learning organisation captured the imagination of managers and policy-makers alike, in that it proposes a positive framework for managing change for the social partners.

In this context, however, this fundamental principle is challenged by the continuation of contradictory strategies. These emphasise deregulatory, hire and fire, low skill and low-wage strategies. Partly, this is a failure to adapt to the new conditions of global competition, and partly it is because in some cases these strategies offer competitive advantages – in the short term. Consequently, arguments on the importance of human capital and how it might best be developed inside organisations are at a crossroads. Management uncertainty, skill losses and gains, intense periods of change, continued and sustained innovation make the need for policies and strategies of skill and knowledge acquisition all the more crucial for Europe's future.

More than 17 research projects currently supported by the TSER programme (FP4) and by the key action (FP5) are creating important new empirical and theoretical knowledge in this field.

To gain the maximum advantage from these projects, it was first necessary to identify a set of current policy concerns, which would benefit from interaction with the RTD projects. The EU and national governments have introduced a spectrum of policies aimed at the twin goals of promoting competitiveness in international markets and maintaining social cohesion (in particular, protecting the losers in global competition). A sense of urgency now drives policy debates, because Europe's economic performance is declining relative to that of the US and many Asian countries. In comparison with these countries, European productivity growth is slow, and its competitiveness in international markets is weak.

The RTD projects encompassed by this cluster are directly relevant to these concerns. Human resource development and competence development have a prominent position in new policies. They stand level with R&D policy, technology policy and infrastructure policy. In part, this is due to a return to human capital theory, the doctrine that the knowledge and skills of a firm's employees are among its most important capital assets. Consequently, HRD and VET practitioners are now assigned the task of generating human capital, and supplying it to the labour market.

The new role of HRD and competence development is described in numerous policy documents and is closely linked to the European employment strategy, currently the major policy arena for debate on human resource and competence needs. The cluster of RTD projects seeks to inform this policy debate by identifying relevant findings from the fourth and fifth framework programme projects and presenting these at appropriate points in the process of policy development.

However, bridging the policy development and the research programme at European level is no simple matter. The national action plans submitted to the Commission each year record many different ways in which Member States are addressing the issues of HRD and competence development. In these plans, local conditions rather than pan-European trends are the major determining factor.

As in the task of making research relevant to practice, there is a problem of reconciling the

general trends of research with the specificities of actual practice. Nevertheless, on the basis of the collective experience of the RTD projects that have come together to form the cluster, it is believed that many commonalities European-wide exist and that the bridge between research and practice can have major impact.

1468

Synopsis of selected VET related projects undertaken in the framework of the Leonardo da Vinci I programme

Abstract

Out of a list of a number of Leonardo Da Vinci projects (Surveys and analyses strand) we selected those that seemed relevant for several issues dealt with in the second Report on Vocational Training Research in Europe: 'Training and learning for competences'.[1] This list was provided by the European Commission, Directorate General Education and Culture. In spring 1999, we asked the coordination teams to send us their project results (papers, reports etc.) and received those described below. The others were not yet completed at that time or coordinators did not respond.

[1] The compilation was carried out by Silvia del Panta (Cedefop).

1489

Table of contents

Promoting the attractiveness of vocational education (PAVE) 389

A European network of national reference structures for vocational qualification: a feasibility study (NATNET) 394

Quality appraisal and cost-benefit analysis in vocational training initiatives and structures. 396

Extended regional further training in Europe (ERFTIE) 398

Training processes in small and medium-sized companies 399

Training processes in lean learning enterprises with particular emphasis on lifelong learning 404

Virtual enterprises in initial vocational training (ISIS – OSIRIS) 406

MOSAIC: Managing diversity – innovative research towards mainstreaming equality 408

Advantaged not disadvantage (AND): A project to establish new models of initial training for disadvantaged young people based on the assessment of current provision in 5 EU geographic areas 411

Route counselling as a means of improving the access to and effectiveness of training and employment initiatives for deprived groups in the labour market 414

Over 45: Causes of exclusion and the role of lifelong learning. 415

Lifelong learning policies in European cities and new employment opportunities for disadvantaged people (POLLIis) 420

1470

Promoting the attractiveness of vocational education (PAVE)

LdV Id. 4272

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Countries: United Kingdom, Finland, Greece, Ireland, the Netherlands.

Period: 1997 to 1998.

Final report: Curriculum Development Unit: 'Reconciling Liberal and Vocational Education', Dublin 1999.

Summary

The project was undertaken by six educational institutions from five countries. The aim of the project was to examine vocational education in these countries with a view to finding ways of improving its status and attractiveness.

The three main hypotheses were:

a) vocational education in general has a lower prestige than liberal education, because it is perceived to lack the quality traditionally associated with the latter;

b) liberal education at its best has a vocational dimension and vocational education at its best has a liberal dimension; hence it makes sense to integrate both;

c) there are already examples of such integration, but they need to be examined critically and articulated more clearly.

The methodology had three dimensions:

a) the philosophical dimension examined the meaning of liberal education in a modern context. It tried to restate the liberal ideal in a vocational mode and to integrate the liberal and vocational tradition by reconciling academic excellence and economic usefulness, combining sake with practical competence, past heritage with present society needs;

b) the historical/hermeneutic dimension facilitated the analysis, comparison and synthesis of documentary importance. In this manner, key texts in the development of vocational education were identified, analysed and compared in each of the five countries involved;

c) The ethnographic dimension examined good practice examples in the integration of the liberal and vocational traditions, through selected case studies in each of the five countries.

General observations, comparisons and conclusions arising from the research

The two terms 'vocational' and 'liberal', in the context of their development over the centuries, are often employed to denote two different approaches to education, but a precise definition is not easy. There are two distinct educational philosophies: the first, which values knowledge for its own sake, the second, which puts a premium on the way this knowledge is used in practice. They have two educational methodologies, a formal, abstract approach or a concrete, experimental one. The two terms are sometimes seen as opposing and even mutually exclusive, but they can be complementary and mutually supportive.

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The starting point of PAVE is the fact that vocational education traditionally had a low status in comparison with academic or general education. In the past, vocational education was often associated with manual or low prestige occupations and was oriented towards non-academic and sometimes socially disadvantaged young people. In choosing this starting point it was hoped that the project would identify factors which can enhance the attractiveness of vocational education.

The curriculum is the attempt to give meaning and to structure the world, to learn something about what is worth knowing and why it is important to make the effort. It is not only about knowledge, pedagogy and assessment, but also about values and relationships. 'A good school needs to provide the young with a wider vision of values as well as knowledge and skills.' (Lawton, 1998)

Vocational education was suitable for future manual workers, while general education was needed for future bureaucrats, managers and professionals. Nowadays, with the changing nature of work, these distinctions are breaking down. Young people should be educated as persons, not merely as workers.

Education for citizenship is not just a national priority, it is also crucial to the vision of what it means to be European. Young people have to be actively prepared for citizenship, both national and European. Transforming school into genuine communities, where people learn through living and doing as well as through thinking and talking, is the concrete expression of reconciling the liberal and vocational traditions by bridging the gap between the liberal and the vocational traditions.

The lower status of vocational education has its roots in the way society itself is organised. Vocational education should not only prepare technicians and skilled workers but young people must be given the chance to improve their status by being able to proceed to more meaningful forms of further and higher education. In this way they will find not only the opportunity to improve their vocational ability but also ways of enhancing their own human development.

The fundamental principle is that liberal and vocational education should be regarded as two complementary aspects of the same task and this task is to shape the individual. We need both the liberal and the vocational if we are to develop an educational philosophy and practice that will adequately serve the needs and aspirations of the human personality. The coming together of the liberal and the vocational has to be accomplished in the context of the various institutions, which have grown up in each tradition and which often strive to maintain their separate identities

National case studies

England

The PAVE case study in England focused on GNVQs (General National Vocational Qualification)[2], new national qualifications in 'general' vocational education that were first proposed in 1991 and introduced nationally from 1993. They were conceived as a major national initiative to upgrade vocational education in Britain. The study focused on two schools: an in-depth case study was conducted in Cranford Community School in Hounslow and a shorter support case study in Leigh City Technology College in Dartford, Kent. The findings are based on individual and group interviews (plus an informal discussion) with students, teachers, parents, management staff and career advisers. These schools, using GNVQ as their vehicle, have indeed narrowed the status gap between vocational and academic education, and they have reduced it by a truly significant amount. There are five overlapping and interacting factors in the schools' success:

a) the more or less immediate relish of 'GNVQ way' with its emphasis on active, responsible and meaningful learning;

b) the experience of good outcomes, especially personal growth in the short-term and access to higher education in the mid-term;

[2] Vocational courses and qualifications introduced in 1992 as a substitute for, or an addition to, certain other vocational qualifications. They are studied by approximately 25 per cent of 16-18 years olds nationally. GNVQ can be taken at three levels: Advanced, Intermediate and Foundation.

c) care, ingenuity and patience in dealing with the fears and misconceptions of teachers, students and families;

d) setting high entry requirements;

e) a culture of support and recognition for GNVQ achievement.

The last three factors are, in a broad sense, 'managerial', and that suggests another valid and illuminating way of regarding the finding. We could say that success was produced by the interaction of three necessary conditions:

a) good management. The attitude of the heads and the senior teachers in these schools are determined, focused and deeply convinced: they really believe and they really concentrate. And, also, there is a progressive involvement of ever higher proportions of staff in GNVQ teaching, which is establishing a professional culture of critical respect for GNVQ in the schools;

b) good curriculum. This is the most important condition of all. The schools felt some initial confidence in the educational value of GNVQ courses when they adopted them, but the confirmation of that value from the experience of teaching and learning them has been crucial to sustaining the upgrading project. Essential further confirmation of value came from the growing acceptance of GNVQ by universities;

c) the formal equivalence of vocational and academic. The formal stipulation of equivalence between GNVQ Advanced and A Level may be seen as the government's contribution. Official equivalence was used to powerful effect in these schools; of course, without good curriculum and good management this would not have meant much.

Finland

The Finnish case study focused on two schools, the Salinkallio Upper Secondary School, outside Lahti city centre, and the Lahti Vocational Institute, a multidisciplinary vocational school offering training in four traditional occupations or industries: vehicles and metal technology; construction technology; electrical engineering; and hotel, restaurant and catering services.

The experimental unit launched, in the autumn of 1996, its 'minimised' form of double qualification programmes (DQ)[3] where vocational students study only those academic courses which are indispensable for taking the minimum form of the matriculation Examination concurrently with their vocational studies. Representatives of the schools were informed about the PAVE project, the aims of the study, the partners involved, the focus on the case study and so on, and both schools immediately expressed their willingness to participate. The case study is based on theme, interviews and informal discussions with principals, teachers and study counsellors and with 6 students from the vocational school.

The operational environment of Finnish vocational education is characterised by strict cultural and systematic differentiation between academic and vocational tracks and an uneven territorial competition between these. Under such conditions, cooperation, as a means of developing new forms of vocational education, is revealed as quite revolutionary and problematic. The Lahti experiment deserves admiration as a very pragmatic response to realities, which exist with all their accompanying irrationalities and cannot be changed locally. As for the attractiveness of vocational education – in the Lahti vocational Institute, in Lahti and in Finland in general – conclusions remain somewhat open.

Finally, it is worth noting that the Lahti model, in its very pragmatism, is far from

[3] DQ: a minimised form of the double qualification studies was launched in the autumn of 1996. Here the vocational students study only those academic courses which are indispensable for taking the minimum form (four exams) of the Matriculation Examination concurrently with their vocational studies. The DQ studies take 2-3 years; some are more intensive than in the regular vocational programmes. The DQ students study their academic courses instead of the common general studies, optional general studies and free-choice studies included in the regular vocational programmes.

representing an ideal solution to the problem of improving the quality of vocational education. For instance, for various practical reasons, academic lessons must be made the responsibility of the upper secondary school teachers.

Greece

The Greek educational system was changed significantly in September 1997; change is continuing and it is unclear what proposed changes will be applied in the future.[4] The case study deals with schools in the Cassandra area of Chalkidiki. This is an area of slow economic growth, with much emphasis on tourism. The case study is rooted in the evolution of the upper secondary schools of the area. Two lyceums were examined in the study: a technical-vocational lyceum and a general academic lyceum. The objectives involved an investigation of ways in which the change from a technical-vocational lyceum to a unified lyceum would affect the existing balance between the two schools in the area. A satisfactory relationship had already been created between them. The unified lyceum is shaped by characteristics of general or liberal education and has no elements of vocational training. There is a strict refusal of students, parents, professionals and other social agencies to accept the reform, indicating that it does not contribute to the upgrading of vocational education. A liberal dimension can contribute positively to vocational education but the critical issues are the form it will take and the teaching methodologies, which will be used.

Liberalisation in vocational training must be shaped according to the terms of vocational training; the same principal must apply in the general lyceum where vocationalisation should be introduced in a form which does not transform a general lyceum into a vocational one. The concept of a Unified Lyceum does not mean a one-way route; both influences can coexist. School should reflect the real-life concerns and interests of their students, while teaching and learning should be personal and concrete and take into account everyday situations and modern conditions. Finally the world of the school should be more closely connected with the world of work, and work should be interpreted broadly as comprising activities that are unpaid as well as paid. In the end, it was not possible to draw final conclusions from the study, but the findings go some way towards indicating the expected results of the research project.

Ireland

The Irish case study is based on the 1995-1997 cohort of students in two schools in different parts of Ireland. School X has a staff of 25 teachers, does not have a guidance counsellor or a home-school liaison officer. School W has a staff of 45 teachers and it has a guidance counsellor and a home-school officer on the staff. This case study proposed to examine the parity of esteem of the Leaving Certificate Applied[5]; this is a modular course unlike other Leaving Certificate programmes which comprised two-year long courses. The first part of the study focuses on the meaningfulness of the programme as a learning experience for the students themselves. The second part considers the manner in which the school authorities and the state authorities manage the programme so as to raise its status both within and outside the school.

The Leaving Certificate Applied provides young people with a learning experience that they consider being worthwhile and meaning-

[4] TEE: this is the New Act (secondary technical-vocational education) that changed significantly the Greek Educational System in September 1997. Under this Act, vocational education has been given the same general aims as primary and secondary education. Vocational schools were also abolished and these were replaced by technical-vocational/ institutions.

[5] Leaving Certificate Applied is a modular course whereas the other Leaving Certificate programmes comprised two-year long courses. It is semesterised in that the two-year programme is divided into four segments with ongoing assessments at the end of January and May each year. It is cross-curricular in that students are required to carry out a total of nine cross-curricular tasks on topics that aim to enable young people to relate what they are learning in the modules to their own life experiences.

ful. They become more empowered through developing personal effectiveness, and a sense of community. The position of Leaving Certificate Applied students highlights the disparity of esteem, reflected in both academic and vocational traditions, for people who become marginalised from the formal education system.

Students appear to have joined the Leaving Certificate Applied because they were advised to do so by their teachers or because they wanted to avoid the pressurised learning environment associated with traditional examinations.

While they have benefited educationally from a changed learning environment, they now find themselves facing three major barriers in getting back into mainstream schooling:

a) barriers of structure, in that they are confined to a limited range of further education courses no matter how well they perform in state assessments;

b) barriers of prejudice based on a materialistic value system that places possible future personal power and influence above the dignity of the human person;

c) barriers of didactic learning/ teaching methodologies that are not conducive to experience-based active learning.

There are indications from the case study that the majority found the barriers so great that they opted out of the formal system and settled for low-skilled jobs or unemployment depending on local labour market conditions.

The Netherlands

In contrast with other European countries there are no intentions or initiatives to integrate the vocational and general education systems in the Netherlands. The purpose of this case study was to find out if MBO (secondary vocational education)[6] succeeds in qualifying their students for the labour market as well as for further study and citizenship. In consideration of the main issue of the PAVE study, linking general and vocational, the Dutch study focused on general aspects of the MBO curriculum. Vocational education should not only prove itself with regard to job preparation, but also with regard to personal development, social education and development of broadly-skilled, independent citizens. Dutch secondary vocational education gives most of their graduates a very good starting position in the labour market. This results from the good mix of theoretical and practical education, practical activity during a substantial part of the course, and collaboration between MBO and employers. Between 20-40% of MBO graduates continue their study in higher level vocational courses.

In the case study two types of students can be distinguished. The first group can be characterised as 'late-developers'; they did not succeed in primary school or junior secondary for a variety of reasons and they 'use' vocational education as a second opportunity to realise their ambitions. In the second group of students are those who have known for many years what kind of job they wanted in the future and who have had small jobs for family and friends. Many students enter MBO as a consequence of selection; this implies that not all of them in MBO have made very explicit career and job choices.

The main question of this study was: how does MBO succeed in preparing their students for social participation and citizenship? MBO success is in delivery of skilled workers and the most important aspect of social participation is succeeding in the labour market. The student's future life is not just a working life and it is not inconceivable that general cultural capital, instead of broad job skills, will become increasingly important in the labour market. Vocational education still has to prove that passing on social and cultural capital is also possible by working in a vocational context and by learning by doing. On the other

[6] MBO is secondary vocational education in the Netherlands. Education in MBO takes two to three years and it is organised in four sectors: technology, economics, services and health care, agriculture and the natural environment. In school the subjects and other learning activities are very much related to occupational practice.

hand we might wonder if general education succeeds in educating critical and independent citizens. In this respect both system have to develop new styles of learning and teaching.

A European network of national reference structures for vocational qualification: a feasibility study (NATNET)

LdV Id. 3742

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Countries: European Union and European Economic Area.

Period: from 1996 to 1997.

Final report: Jean Gordon and David Parkes: "A European Network of National Reference Structures for Vocational Qualifications" – A Feasibility Study (NATNET) The Project Case Study: Austria and Norway. EIESP/ Leonardo/F3742, March 1998.

"Using Qualifications Trans-Nationally – a Manual for those designing policy and practice". Compiled by Leonard Bill for the LEONARDO NATNET Project, European Institute of Education and Social Policy, Paris, January 1998.

Summary

The EIESP (European Institution of Education and Social Policy) managed a Leonardo-funded project, NATNET, from 1996 to 1998, which was designed to contribute to the transparency of vocational qualifications by establishing a framework for concrete cooperation between expert bodies engaged in awarding, accrediting and developing vocational qualifications at a national level. NATNET was linked to a pilot project, NETREF, established to set up reference structures in the partner countries and pilot the conclusions of the feasibility study. Cedefop contributed its expertise to the work of both projects.

The main objectives of NATNET are the following:

a) to establish the working framework for a network of reference structures among the European Union and the associated countries with the intention of removing obstacles to the transparency of vocational qualifications;

b) in the context of such a network, to assume the function of developing and providing information on vocational qualifications on a transnational basis by establishing a simple methodology to enable data exchange, a human interface and the use of available information;

c) to develop the network in such a way that other countries may be easily integrated, extending the 'feasibility element' of the investigation from the original six countries to the European Union and associated countries.

The Austrian and Norwegian case studies

These two countries' case studies were selected to include one new EU member-state and one of the EEA countries.

1476

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The project aimed at investigating the feasibility of the creation of reference structures among the range of public and private constituencies (relevant ministries, local authorities, social partners, intermediary bodies, etc.).

Therefore, the intention was to co-operate to produce in-depth analysis of the issues at stake. It allowed NATNET to test the outcomes and conclusions of the first feasibility study in specific national contexts.

The approach was one of information gathering, analysis and feedback into the NATNET model of information development and exchange.

Information gathering in the two countries took place through:

a) working with a expert in each country;

b) carrying out a survey through interviews with key actors;

c) official and research documentation on the system;

d) discussions and debate at the national conferences.

The analysis and feedback was carried out through:

a) developing the analysis with the two national expert;

b) feedback through bodies and organisations interviewed;

c) the national conferences, which were designed to be a forum for discussing and testing the hypotheses to date.

Two national conferences were organised in each country during 1997. The aim was to test the outcomes of the interviewing in the country, to discuss the on-going hypotheses of NATNET concerning models for reference structures in a specific context, to bring together organisations, bodies and agencies which normally do not work together and to bridge the constraints of the system by providing a neutral territory.

The principal points identified from the Austrian case study are the following:

a) mobility and Austrians: mobility is low in Austria, because unemployment is low and, as a result, people do not need to be mobile;

b) mobility and immigration: Austria is seen as an historic entry point for people coming into Western Europe from central and eastern European countries. Therefore mobility in Austria is associated with immigration;

c) transparency of qualifications: qualifications from some countries, Germany and Switzerland, allow a higher mobility between these countries;

d) at national level there is the need for an organisation to improve the availability of, and access to, information on transparency issues;

e) a national information system should have two main functions: to identify and map the current channels of information; and to develop an overview of international priorities with a view to persuading existing channels to take these into consideration;

f) there is a need for a review of the counselling services in terms of their goals and provision of reliable information;

g) in Austria, regulated occupations are important in the labour market, therefore understanding the detailed characteristics of qualifications offered in other states is essential;

h) developing mobility of employers, i.e. large firms located in states other than the home country increases the need for understanding qualifications.

The conference has not created formal outcomes; it has simulated a number of indi-

vidual organisational responses. The Austrian context is organisationally and politically complex, therefore, cooperation is not easy. It is clear that higher cooperation between the social partners is required.

The main points identified by the Norwegian case study are the following:

a) there is a long tradition of mobility among the four Nordic countries;

b) there is a tendency to avoid recognition of foreign qualifications. Initiatives taken to promote comparability and/or transparency encounter difficulties as soon as they start to work on detailed comparisons or specific areas;

c) it is important to find a solution to the recognition of qualifications of immigrants from countries other than the EU/EEA and, in particular, of refugees;

d) a co-ordinating reference structure among the existing institutions would be helpful. It should provide and acquire information, coordination, advice and updating, i.e. guiding people through the systems;

e) there is a need to simplify entry points and make the system more efficient. At the moment candidates pass from one body to another with too many organisations giving too disperse information;

f) the distinction should be maintained between the government setting rules and the market influence over supply and demand.

The outcomes of the Norwegian conference are:

a) the conference gave individuals and organisations an opportunity to know each other better with reference to their respective roles and responsibilities;

b) there is high-level interest from the National Centre for Vocational Guidance in the project and for the idea of a reference structure.

Conclusion

There is clearly a need to improve information channels and provision. A first task, suitable for a reference centre, would be noticing and mapping channels of information in order to be better placed to guide enquires through the system.

There is also an increasing need for higher mobility, and a condition for that is transparency. The results of NATNET investigations suggest that mutual recognition is nevertheless missing from the agenda. It is necessary to develop the mechanism to improve information flows.

For the partners involved, NATNET has allowed them to raise and debate issues of provision and exchange of information internally and externally among a range of national and sector organisations, which normally work parallel to each other, but with little direct contact. The case studies were part of the surveys and feasibility studies. The main outcome has been to open up the debate in both countries so that the idea of establishing structures and mechanisms to improve transparency has been set higher in national agendas.

Quality appraisal and cost-benefit analysis in vocational training initiatives and structures.

LDV n: I/95/1/223/III.2a/FPC- Id.3908

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Countries: Italy, Germany, UK, Spain, France.

Period: 1995.

Final Report: "Quality appraisal and cost-benefit analysis in continuing vocational training projects. A model for the evaluation of continuing training". Rome, March 1998.

Summary

The aim of this project was to elaborate and provide a model for assessing continuing vocational training applicable to all European environments. In order to be applicable and operational, and therefore to qualify as a truly European instrument, the model had to meet the following requirements:

a) simple to use, also simple to learn for trainers and training agency staff throughout the EU;
b) to provide consistent meaning given to key concepts and simple, universal, and well defined tools and procedures;
c) to be flexible and applicable to a vast range of situations, sectors and organisational environments, as well as different geographical and cultural areas;
d) once applied, the model should be easily transferable and replicable in other situations;
e) for the above reasons, the model had to be minimal, i.e. consisting of a core that could be easily expanded and broken down according to special or local needs;
f) it had to be designed to 'capture' the quality of training schemes, as related to the different agents and actors involved, as well as the many levels, times, functions, etc. associated with the quality of their lifecycle;
g) finally, the model had to focus both on the process and outcome of training initiatives.

In this model, the assessment process tends to coincide with the training process itself, thus becoming an essential component of all the activities and skills involved in preparing, developing and implementing a training initiative. Moreover, the person in charge of the assessment is no longer necessarily an expert living and working in another field. Instead, the model is finalised at making assessment of skills a widespread practice of the training provider; the person in charge of appraisal is ultimately the same one who co-ordinates the training scheme and should be able to rely on the assistance of all staff involved in its implementation.

The basic principle of the model is that the training initiative is a process and assessment constitutes an intrinsic component of the training initiative. The person in charge of scheme should be able to evaluate it. A framework of parameters and standards should therefore be set up, *a priori*, for comparative assessment of training supply quality and its improvement.

The model is structured as a varied set of 'lean', 'flexible' checklists, aimed at assessing total quality in training initiatives, with special reference to continuous training. In this light, the model should be used during each time phase in the scheme's evaluation: the ex-ante phase; monitoring activities; final assessment; and the ex-post phase.

The user is the provider of vocational services. However, the model may also be used by the other actors involved in the training scheme, e.g. the contracting firm, public authorities or bilateral organisations, potential 'end users' of the activities implemented, direct beneficiaries, or even the scheme's financial backers.

The object of assessment is the training scheme itself. However, the model also allows an analysis of production processes at the training agency in charge of the scheme, in order to connect the training initiative to specific details related to the provider of vocational services. The model's structure is illustrated as follows:

Phase in Scheme	Actors involved
1. Strategy	Provider-client/end-user
2. Planning & Design	Provider-client/end-user
3. Implementation/ Monitoring	Provider-client/ trained end-user
4. Outcome/Impact	Provider-client/ trained end-user

For the each of the above-mentioned phases, there is a checklist of key issues concerning the scheme's quality. Those involved in assessment should reply to the questions contained in the list, adopting suitable standards, procedures and specific evaluation tools which depend on their initiative. There are two reasons for this choice.

First, only by allowing the user to chose standards, procedures and tools, could the Model aspire to be really universal, i.e. capable of adapting to all training providers and any social or cultural environment. Second, the creation, use and development of standards, procedures and tools whereby users assess the different aspects of quality, constitutes a major advance towards a solid, widespread culture of appraisal, which is the ultimate goal of the model.

For each group of issues in each checklist, quality appraisal may be summarised with a score (between 1 and 5), that reflects a simple qualitative scale (e.g. excellent, good, fair, poor, bad). The score should be interpreted as an index identifying the strengths and weaknesses of each cycle in a scheme's life, and also as a means of monitoring quality improvements in comparable schemes over a period of time.

The score for each phase in a scheme's cycle may also contribute to concise evaluation of the qualities of each phase, but also of the project as a whole. In this case, it is advisable to "normalise" aggregate scores by assigning only values between 1 and 5, in order to avoid overestimating phases embracing a larger number of checklists.

The model is completed by a brief 'User's Guide' and a 'List of Essential Information', without which the tool cannot be employed to its full potential.

Extended regional further training in Europe (ERFTIE)

LdV. Id. 445.

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- Castel Coldrano Education Centre, Italy
- *Institut National pour le Développement de la Formation Professionelle Continue (INFPC)*, Luxembourg

Areas: Voitsberg (Austria), Uckermark (Germany), Val Venosta (Italy) and Ösling (Luxembourg).

Period: July 1998 to March 1999.

Report of findings: *Erweiterte Regionale Weiterbildung in Europa*

Summary

The aim of the ERFTIE project is to question unemployed women in rural areas about their interests, wishes and attitudes and about the skills and qualifications they have acquired; the results of this survey should help to assess these women's prospects of re-entering the mainstream labour market, either as employees or through self-employment.

A total of 280 women in the selected areas were questioned, and 60 of them underwent a skills analysis. The findings in terms of their individual educational and occupational histories as well as of their respective personal interests and ambitions provided a largely customised training recommendation for each of the respondents. Experts from the employment authorities in the relevant areas and local training organisations are currently

1430

comparing these recommendations with the actual training opportunities that exist at the present time and with the realities of the regional labour markets with a view to drawing up concrete training plans for the women, which would open the door for them to return to work.

As the study goes on, the intention is to use this survey, the skills analysis and a range of further-training modules to create a standardised system that can also be used in other comparable parts of Europe.

The methodology used to reintegrate women in rural areas into working life should have the following characteristics:

1. The women advising the respondents should come from the same social milieu as the latter;

2. The target group should be asked about their interests, attitudes, wishes and skills;

3. A special range of training courses should be developed and implemented;

4. This range of courses should be made available in other comparable parts of Europe.

First of all, the advisers (mentors) were trained and familiarised with the planned course of the project. As part of this training process, they were given a course in communication and counselling.

During the period from July to December 1998, these mentors tried to survey as many unemployed women as possible within their local areas and to recruit them for further participation in the project. Those who were interested were invited to an information session; the local sessions were held in December 1998 and January 1999. Their purpose was to inform the women in greater detail about the object and planned course of the study and in particular about the planned skills analysis. The mentors reported considerable irrational anxiety among the women when they first learned of the skills analysis. At the information session, however, the women were made aware that a housewife and mother possesses a considerable range of occupational skills which can be harnessed by a customised programme of further training.

In February 1999, skills analyses were conducted in each of the four areas. The analysis involved various tests and exercises. On completion, an initial feedback interview took place with each of the women. From the evaluation of the results, there emerged an individual skills profile for each participant, comprising various personal, social and methodological skills. Thereafter, the main focus was on the strengths of each woman and in particular on the question whether these strengths were sufficiently well developed. Weaknesses only came into play in cases where there was some indication of a need for compensatory training courses.

The next step was to formulate training recommendations for each individual woman and to pass these on to the partner organisations. During the current phase (1999), the partner organisations are examining the training recommendations with experts from the employment authorities and from bodies responsible for the provision of further training and comparing the recommendations with local market conditions with a view to drawing up concrete training plans in a second feedback interview with the women.

At the present time (1999), the implementation of the individual training plans has begun, so it is too early to make any pronouncements as to whether the aim of the project has been achieved. Nevertheless, the evaluation of the skills analysis has shown that it gave more than 90% of the women a clearer perception of their own future and raised their self-esteem.

Training processes in small and medium-sized companies

LdV Id. E/1224.

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- EIM Small Business Research and Consultancy (Netherlands);
- IfG (Institute for Small Business Research Vienna) (Austria);
- KMO-Studiencentrum (Small Business Research Institute) (Belgium);
- NEI (National Economic Institute) (Iceland);
- Turku School of Economics and Business Administration (Finland);
- University L. Bocconi (Furio Cicogna Study Centre) (Italy);
- University of Piraeus Research Centre (Greece).

Countries: Austria, Belgium, Finland, France, Greece, Iceland, Italy, Norway, Portugal, Spain, The Netherlands.

Period: during 1997.

Final report: "Training Processes in SMEs: practices, problems and requirements". European Report, December 1997

Summary

The general aim of this research is to analyse the reasons of the limited access for the European SMEs to continuing vocational training (CVT) activities, and to identify effective policy lines for the improvement in the training strategies and for the development of programmes directed towards the European SMEs.

The study comprises five sub goals, as follows:

a) investigation of the training practices of small and medium-sized enterprises;

b) identification of the problems and the difficulties that small and medium sized enterprises encounter in their training processes;

c) elaboration of a qualitative analysis of the characteristics of the training offer and of the programmes of support put in practice;

d) comparative analysis of the situation in different countries;

e) recommendations regarding the strategies of support and encouragement, which are most appropriate to the process of training in small and medium-sized enterprises.

The study was designed using a regional approach for two main reasons: first, because there is still a relevant lack of information about the existing CVT practices on a regional basis and, second, because the regional approach allows a more precise treatment of the questions relating to the training supply and to the functioning of the programmes of support than a study conducted at national level.

The research is based on the survey of 75 manufacturing small and medium-sized enterprises per each selected region, and a qualitative analysis of the training supplies available to the same enterprises.

This study is divided into 4 part:

a) description of the surveyed regions;
b) training processes in SMEs;
c) analysis of the existing regional continuous vocational training systems in Europe;
d) assessment of CVT systems and barriers to training.

For a description of the regions surveyed see the final report

Training processes in SMEs

The available data show:

a) there is a positive relationship between size and training, very small enterprises carry out less training than small and medium enterprises;

b) the larger the enterprise, the more formal the adopted training approach;

c) training either at the request of the enterprise or the personnel is less intensively pursued in the larger SMEs;

d) the larger the turnover, more CVT activities are the carried out and more formal the adopted training approach;

1482

e) the highest proportion of enterprises active in training is in the regions of Iceland and Norway; the regions of the Southern peripheral countries of Spain, Italy, Greece and Portugal are less active in training activities; the remaining regions show a similar proportion of activity SMEs;

f) the regions where the SMEs have a larger percentage of training do not necessarily correspond to those regions whose enterprises are more active in training;

g) a large share of SMEs devote a relatively small percentage of their salary volume to the financing of their training activities;

h) different strategies are adopted by the different regional SMEs: the Italian regional SMEs prefer to devote a substantial amount of training to the benefit of a small share of employees. The opposite is adopted by the Icelandic or the Spanish regional SMEs, who prefer to train as many people as possible even if resources are scarce;

i) most of the surveyed SMEs (66,2%) point out that the training plans have to been elaborated by the enterprise without any aid from external sources and they have individual, annually defined training plans;

j) there are important differences amongst the different regions, due to the existence of ad-hoc policy schemes for supporting training plans.

The different regional approaches to training also provide important dissimilarity in the characterisation of the courses:

a) 50% of the SMEs with a training plan show a preference for custom made courses;

b) only 29,5% of the surveyed SMEs where training is carried out at the initiative of the personnel prefer custom made courses;

c) the use of self-study seems to rare amongst the surveyed SMEs, in the sense that whereas 24,1% of them state that they have used this type of course, 72% of enterprises say the contrary;

d) as far as size is concerned, the larger the enterprise is, the more important the personnel of the company itself and of training centres/associations are as providers.

Concerning the characteristics of the personnel trained, the survey data suggest the following:

a) the personnel that mostly benefit from training belong to the departments of production and management administration;

b) the larger SMEs and those with training plans show a higher diversification in the departments or professional levels of their trained personnel;

c) on average, the surveyed SMEs estimate that employees are willing to be trained;

d) the interest of employees towards training is higher in medium-sized enterprises and in those SMEs where training is carried out according to a training plan;

e) there are many contrasts in terms of departments and professional levels of trained personnel, probably due to the different economic specialisations and training situations amongst the surveyed regions.

The survey data show that only a minor percentage of the surveyed SMEs (31.3%) have received public financial aid. Most of these are larger SMEs and SMEs with a training plan. There is a strong correlation between receipt of public aids and the importance attributed to them: the regions where the aids are regarded as a determinant for developing training activities correspond exactly with those regions where the percentage of SMEs benefiting from aids is lower (the Finnish, Icelandic and Italian regions).

The surveyed SMEs are quite satisfied with the training activities carried out. The satisfaction indicated in the Greek and Spanish regions is particularly interestingattributed, since these two regions have the lowest percentage of SMEs active in training activities.

1483

Analysis of the existing regional continuous vocational training systems in Europe

Several European countries, such as Austria, Finland, Iceland, Norway, The Netherlands and Spain do not have a national/regional legislative framework that regulates and defines CVT. They adopt a 'liberal' approach, where CVT activities are the sole responsibility of the private agreements reached between employers and employees themselves.

Other countries, such as Belgium, France, Greece, Italy and Portugal adopt a more 'interventionist' approach, in the sense that the public authorities play a primary, pro-active role. But there are also some differences between these countries: in Greece and Portugal we find a highly centralised CVT policy structure, where the regions do not have the capability to carry out an own regional CVT policy; in other countries, such as Belgium and Italy, there is a de-centralised model, where the main actors for planning activity and the administrative management of training activities are the regions. France is located in an 'intermediary' position; regional authorities can implement specific supports on CVT activities, though the main orientations and regulations of CVT policy are still primarily designed at central level.

The different existing situations are reflected in the different priorities of the national/regional CVT policies. This notwithstanding, it is possible to identify in most of the regions surveyed an increasing awareness of the importance of CVT for the competitiveness of national/regional enterprises, which explains its current priority status amongst policy makers.

Assessment of CVT systems and barriers to training

This section describes the most important information channels for SMEs relating to training, assesses the available information on training supply and public programmes as well as the suitability of training supply and training programmes to meet SME needs.

The most important information channels on existing training supply are business/sector associations and training centres/organisations. Other relevant suppliers of information are newspaper and suppliers of equipment.

SME assessment of the availability of information on training supply and public programmes suggests that SMEs regard positively information on training supply while information on public programmes is insufficiently regarded in all the regions surveyed.

The distinction by enterprise size and between SMEs that do/do not carry out training activities shows remarkable differences. The larger SMEs and those SMEs that effectively carry out training activities seem to value more positively the suitability of existing training supply and public programmes.

According to the general SMEs own point of view, there are three main reasons limiting the development of training activities:

a) high costs of training courses;

b) problems of internal organisation with reference to attendance at courses;

c) the bad quality/unsuitability of available training courses.

Two other also factors play a role,

a) the lack of interest of the personnel;

b) difficulties in identifying the enterprise's training needs.

There are also different perceptions on the above limiting factors from the SMEs: the small ones are more sensitive to high costs and the bad quality/unsuitability of the available courses; the large SMEs are more sensitive to the problems related to internal organisation.

It is important to underline the fact that SMEs do not perceive the lack of support from the government as an important barrier to training.

Perceptions of the barriers seem to be dependent on the regions surveyed. The experts differentiate between two main groups of barriers:

a) 'internal-to-the-firm', referring to the characteristics of SMEs, internal organisation and size;

b) 'external-to-the-firm', referring to the high cost of training for most SMEs, the lack of transparency that characterises most of the existing training markets.

One of the most feasible solutions to these barriers to training is the creation of inter-enterprise collaborative structures that could at least partly address the problems of insufficient size. It is particularly interesting to know which kind of courses are suggested by SMEs themselves to encourage their training activities. Non-training enterprises offer strong support for custom-made courses and have a better opinion of self-study courses as a suitable method for training; training enterprises resort more often to external open courses.

Conclusions

Having in mind European SMEs CVT practices and existing regional CVT systems, it is possible to suggest several lines of action for the different agents involved in CVT, SME employers, SME employees, CVT suppliers and policy makers.

Suggestions for SME employers and employees are as follows:

a) SME employers have to be conscious that any investment in the competence and skills of the workforce has to be seen in a long-term perspective;

b) training has to be understood as an element of enterprise general strategy;

c) employers have to be involved in the planning process of the enterprise's training policy;

d) SME employers have to acknowledge those employees who request and accept training, in order to motivate employees to take on training;

e) cooperation with other enterprises facing the same difficulties could be an appropriate tool for overcoming obstacles;

f) employees have to be conscious about the need to continuously develop their own skills/human capital during their life, not only as a tool for maintaining their job, but also as an instrument for improving their career prospects;

g) employees have to learn the principle that, in order to safeguard themselves, they have to increasingly contribute to training, even from their own means (for example through self-learning, using holidays).

Suggestions for CVT suppliers:

a) training contents and methodologies have to be continuously updated and improved, moreover, they have to be well aware of enterprises' training requirements.

b) the quality of training programmes has also to be continuously improved, not only from a quantitative but also from a qualitative point of view;

c) CVT suppliers have to make an effort to better inform and advise SMEs on the available options, basically through an intensification of their marketing efforts and an adaptation their language to SMEs.

Suggestions for CVT policy makers:

a) policy makers have to encourage awareness of SME employers/employees regarding the importance of CVT for the competitiveness of their enterprise;

b) future policy has to be designed from the enterprises' perspective, bearing in mind their needs, practices and requirements;

c) CVT activities cannot be isolated from the general education system, links between the two worlds have to be reinforced;

d) information and marketing on the available options have to be improved and ad-

ministrative procedures have to be shortened and simplified;

e) financing of SMEs investments in skill and training development has to be continuously encouraged and strengthened by public agents;

f) employees have to realise that they are the main actors responsible for their own career management;

g) tax relief is one of the most suitable means of support as it is based on the individual enterprise's initiative and avoids inefficiencies;

h) public bodies have to set up methods and routines for the evaluation of existing CVT supply, so that its quality can be continuously improved and adapted to existing needs and requirements.

Training processes in lean learning enterprises with particular emphasis on lifelong learning

LdV Id.1822

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Countries: UK, Germany and Austria.

Term: 1 December 1996 to 30 November 1998.

Final Report Hans G. Bauer, Ute Büchele (ed.): *Um schlank zu sein, muss man lernen*. Logos GAB, Trigon, Rubicon.

Summary

In this study three companies were examined: a distribution company in the UK, a large drug store in Germany and a private bank in Austria.

The study examined the operational leanness of the three companies and the development of their business organisation in terms of organisational culture and lifelong learning.

The case studies show that there are no criteria for defining a 'lean' or a 'learning' enterprise. 'Lean thinking' amounts to the concentration of business policies and decisions on the dimensions and processes of wealth creation in the sense of a 'restriction to essentials' involving specification of value, avoidance of waste and of needless effort and expense, focusing on customer requirements and continuous improvement.

A lean learning organisation is characterised by the following attributes:

1. On-the-job learning is supported by planning, implementation, evaluation, working parties, improvement and innovation teams, flat networked management and flexible documentation and, last but not least, by a culture of trust and support.

2. The learning process is designed to take account of the company's medium- and long-term aims and is facilitated by open and non-hierarchical channels of communication.

3. Supporting staff development is an important company aim and helps to secure the future of the organisation.

The study began by examining the following quantitative factors.

Company development phase: pioneering phase -> differentiation -> integration -> association describes the process by which a business and its style of management develop from a rather informal organisational system into a single focused entity.

Cultural diagnosis: 12 cardinal points within an enterprise. Each of the twelve cardinal points complements one of the others, and they may be represented as polarised pairs of qualities:

- striving for progress but nurturing tradition;
- adopting a visionary approach but striving for efficiency;
- prepared to take risks but seeking security;
- establishing rules and order but always ready to innovate;
- serving single-mindedly but always adaptable; and
- running a tight ship but anxious to promote the common good.

The stakeholder-centred approach: the stakeholders in a business are its customers, its suppliers, its owners or shareholders, its staff and society at large.

Corporate learning, as a means of optimising key processes and as an expression of a company's stakeholder-centred approach, is at the core of any staff-development strategy. The study examined the importance that the three businesses attach to training, how they identify learning needs, the available training opportunities, the learning processes and how the companies use and recognise the skills and knowledge acquired by their staff.

Aids to corporate learning: the study identified the principles, structural elements and measures that encourage and support corporate learning. A distinction was made between the core and support processes on the one hand and the managerial processes, together with cultural and social subsystems, on the other.

In a *'lean-rating questionnaire'*, six constituent elements of lean enterprises were assessed:

a) the human face of the organisation and the priority it accords to its staff;

b) the principles of lean production practised by the organisation;

c) the pull principle (company policy driven by customer demand);

d) the process-flow principle (avoidance of needless effort and expense);

e) the *muda* principle (avoidance of waste);

f) the principle of continuous improvement.

Curricular analysis of training programmes: the study categorised company training courses by subject, time input, target learning outcomes and methodology and drew inter-company comparisons.

A qualitative examination based on structured and open-ended interviews supplemented the quantitative indicators. This qualitative analysis related to the company's development phases, the respondent's concept of learning, the learning activities in which staff engaged, the place of learning processes within the fabric of the company and the instruction methods used on the training courses. A 'training questionnaire' was used to obtain various assessments of training needs and the value of in-house training. Experts from the project team used the collected data to evaluate the extent to which the principles of 'be lean and learn' were in balance within the analysed companies.

The individual findings for the three analysed companies cannot be presented in the context of this summary; for details of the study, please see the project team's report.

Conclusions

The three enterprises featured in the study are by no means object lessons in the perfect execution of a *think lean* policy. Be that as it may, the study has produced a number of suggestions as to the learning and training implications of a business strategy that is primarily driven by economic goals.

Lean thinking is *not an organisational model*, although organisational lessons naturally can and must be drawn from it; in fact, it is *primarily a matter of attitude*. For that reason, the study devoted particular attention to the cultural side of company development.

It is fair to say that the three analysed businesses are at different stages in their development, not only in general terms but also, and more especially, in terms of their individual functional elements.

It is plain to see that, in cases where 'lean thinking' is the prevailing philosophy or the ideal that shapes the corporate culture, businesses will tend to seek a value-adding unity of purpose through common ideas and visions. The point is that 'thinking lean' does not mean tightening the application of formal rules or optimising systems of centralised control; on the contrary, it is all about the identification of all members of an organisation with its fundamental ideas and values.

Special importance therefore attaches to the issues and requirements arising from this approach regarding the nurtured and spontaneous development of common modes of behaviour and communication styles and regarding a common understanding of the significance and aim of the work performed by the various departments within the organisation.

Virtual enterprises in initial vocational training (ISIS – OSIRIS)

LdV D/97/2/00057/EA/III.2.a./CONTP

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Countries: Ireland, Germany and Greece

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Publication: S. Kreher, Institute of Labour Studies, University of Kassel, *Virtuelle Unternehmen in der beruflichen Erstausbildung (ISIS- OSIRIS)*. Gesamthochschule Kassel, 2 August 1999.

Summary

'Virtual enterprises' are business structures which have been created as a response to new competitive demands. They are companies which conduct their business through the Internet or loose associations of independent companies which trade publicly under a common name but whose organisational links are administered exclusively by means of information and communication technology.

The characteristics of virtual enterprises are an extremely customer-centred approach, temporary forms of work organisation, decentralised organisation of the problem-solving team and the exclusive use of the Internet/ Intranet or Extranet instead of a fixed place of business.

Three types of virtual enterprise

1. Type A: a virtual enterprises is constituted on the basis of an existing pool of compa-

1488

nies whose management teams know each other (trust).

2. Type B: where a company is short of particular skills, it brings in an external partner, but only for the lifetime of the virtual enterprise.
3. Type C: a virtual enterprise is constituted by companies which have not previously had any dealings with each other, so it is not founded on mutual trust; this is the least common form of virtual enterprise.

Inhibiting factors: the parties lack experience; specialists are tied to a particular company; trade unions are sceptical; it is a complex venture; obstacles arise in the course of cooperation.

Skill requirements for staff of virtual enterprises

- Specialised technical skills: knowledge of ICT (familiarity with applications and networks, knowledge of operating systems, the ability to create and maintain intranet and web pages and familiarity with communication software), linguistic ability and cultural awareness.

- Key skills are: awareness of problems, enterprising mentality and behaviour, a sense of responsibility and the ability to be a team player, to act on one's own initiative, to take independent decisions and to create an atmosphere of mutual trust.

Virtual enterprises create new forms of work and new workplaces; there are no steady jobs in the traditional sense any more; the demands on employees depend on the work in hand; within a continuous training process, inputs occur as and when required.

Team design is crucial to the success of virtual enterprises; educational, methodological, procedural and behavioural standards have to be defined and established.

Examples of virtual enterprises

- *The Virtual Company* is a loose association which currently comprises 14 independent small and medium-sized Swiss businesses from the realms of information and telecommunications; these companies form a fixed pool of skills and experience (Type A).

- *Virtuelle Fabrik Euregio Bodensee* is a combination of 27 companies (large, medium-sized and small) around the shores of Lake Constance.

- *Systemhaus Seitz*, with 250 member businesses, is a virtual enterprise in the German-speaking countries.

- *Personalvermittlung Newplan* is a service which finds work for freelancers; it currently employs 150 people.

- *PUMA Sportartikel (Deutschland)* focuses on the development, design and marketing of sportswear. The logistics and manufacturing of the products are entrusted to a global network of partner companies; a new virtual enterprise is set up every time a new product is introduced.

The organisation of vocational training in virtual enterprises

Virtual training is designed to complement the conventional forms of training. Training loses its stationary character and is networked. Appropriate learning software has to be developed, as must web-based training strategies which allow rapid curricular changes to be effected through the Internet or Intranets.

Media-based learning is the key to success

It is possible to organise a system of vocational training within virtual enterprises. With a fixed pool of employees and instructors, teachers and pupils, a virtual learning community can be created as a mirror image of a virtual enterprise, with each member able to formulate and satisfy his or training needs.

There are various providers of staff training who can meet the needs of virtual enterprises. Users learn the techniques and key skills they require for work in virtual enterprises. Virtual teams form themselves into learning

communities and can also use these technological resources to make their teamwork more effective.

Schools can offer their teaching material through the Internet as a supplement to formal lessons; in other words, a virtual enterprise of type A or B is developed when pupils and teachers work together in a team on the computerised material.

ISIS project

The ISIS project was developed in partnership with eight European institutions (see above). The aim of the project is to establish virtual enterprises in the domain of education and training.

The following are the main points regarding the implementation of this project.

- The creation of websites – a public Internet site with general information on the project and a closed Intranet for exchanges between project participants.

- Discussion boards are considered indispensable for communication on technical matters and on questions of content and organisation.

- Many interesting proposals were made at the start of the project, but the establishment of a market-research institute to survey the eating habits of young people in Europe was the only one to be implemented. The input from the surveyed pupils, however, was limited. Because of a lack of agreement among the project participants about a further virtual enterprise, the project management team decided to create its own virtual enterprise. The aim of this venture is the production of a CD-ROM on virtual enterprises in vocational training.

The accompanying OSIRIS project (see above)

The organisation and management of OSIRIS are based on a cooperative model involving self-determination, autonomy, initiative and shared responsibility.

In order to evaluate the ISIS project, OSIRIS established eight study packages, with various questions under each heading:

1. collection of general data from the respondents;

2. new company structures and initial vocational-training needs, decision-making processes in virtual enterprises and their procedural implications for the vocational-training system;

3. process management and vocational training (e.g. activities, resources, skills, interfaces between the various functional areas of the ISIS project, efficiency and the cost-benefit ratio);

4. communication structures and cooperation procedures in virtual enterprises and their implications for initial vocational training;

5. development of employees' identification with their work and improvement of vocational-training activity;

6. cooperation between cultures and prospects for European integration of vocational-training systems;

7. continuous organisational-development consultancy;

8. information technology in virtual enterprises and IT requirements within the system of vocational training.

MOSAIC: Managing diversity – innovative research towards mainstreaming equality

LdV Id.: 1783

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Countries:
Ireland, Italy, Netherlands, Sweden, United Kingdom.

Period:
From 1996 to 1998.

Final Report:
"Project Mosaic: Innovative Research towards Mainstreaming Equality." 1999

Summary

The aim of the project MOSAIC is to help companies in Europe to become more economically competitive by enhancing their use of human resources. The approach is to learn from case study employers using or introducing a human resource management approach know as 'managing diversity'. This is a model which has been largely developed and implemented in the United States. It has some characteristics in common with the European equal opportunities approach know as 'mainstreaming equality', but there are important differences, too, which the project has analysed.

The principal objectives are the following:

a) to clarify the concepts of managing diversity and mainstreaming equality;

b) to conduct case studies of employers identified as managing diverse workforces;

c) to analyse the results and disseminate them widely.

These objectives have largely been met. A core research team from five Member States has:

a) prepared a series of papers on managing diversity and mainstreaming equality, some of which have been published;

b) distributed the papers to a wider group of 'validating partners' such as personnel organisations, employers, trade unions, equality agencies and business development agencies in a wider group of member states to disseminate to their constituencies;

c) prepared background papers on equal opportunities in the respective Member States as a context for analysing the case studies;

d) conducted theoretically sampled case studies of employers managing diverse workforces;

e) analysed the results individually and thematically;

e) clarified the similarities and differences between the two approaches;

f) disseminated the results widely through publications and conference presentations.

The case studies number thirteen, with most of the companies falling within the EC definition of 'large', being more than 250 employees; the exception is an Italian manufacturing company with 120 staff. They were selected to allow comparisons across sector and country and they included:

a) public sector health authorities;

b) post and telecommunication companies that were either new or ex-public sector;

c) white goods, computing and other manufacturing companies;

d) multi-national financial service sector companies.

The case studies in the Mosaic project were identified as examples of employers with active diversity policies. Some stressed this fea-

ture in their human resource management approach or their mission statement in their general or recruitment publicity. Some were actively involved in initiatives or projects with equality agencies. The researchers drew on analyses of company documentation and statistics, and interviews with key actors, plus, in some cases, staff to identify the key elements of the diversity approach.

The key elements of a managing diversity approach were identified as follows:

a) equality vision. Equality as part of the employers' mission culture and value systems, and it should be familiar with company policy;

b) consultation and ownership of equality. Many of the organisations had conducted surveys of their employees to identify barriers thought to impede their progress. Managers at all levels took the findings seriously. Workshops, seminars and training were common features. One of the outcomes was that diversity among women and among men was recognised. Policies that suited some were recognised as not necessarily benefiting all;

c) respect and dignity of employees. The case study employers placed a high premium on the personal dignity of employees. This meant that the culture was one that would not tolerate sexism, stereotyping or harassment of any kind. It was regarded as essential that work relationships were based on mutual respect, and that members of staff were aware that discrimination would be not tolerated;

d) reconciliation of work and family life. The employers tended to be pro-active in recognising that employees might have domestic and family responsibilities and sought to accommodate them. This included paying for or providing childcare and allowing flexibility in hours worked. Family were seen as a positive aspect of employees' lives rather than a hindrance.

e) challenging the long hours culture. Imaginative approaches had been developed in some of the organisations to the issue of time. Creating a culture oriented towards productivity rather than presenteeism was a feature of such approaches. Teleworking from home was one strategy used.

There are clear differences in motivation and approach between the case studies. Those in the early stages of developing diversity policies, and those who have to implement such policies principally because they have an American or multi-national corporate culture committed to diversity, tend to focus simply on gender and address overt discrimination such as racial harassment. They restrict their scope to recruitment, promotion and some aspects of work organisation and culture. By contrast, those at the other end of the continuum have a much wider remit in terms of characteristics: they focus more on developing the individual regardless of their ascribed characteristics. This is expressed through advertisements for recruitment and training programmes aimed at those with international competence. The knowledge of customers, especially ethnic groups, is seen as vital to addressing customer need. Managing diversity for such employers moves beyond human resource management to the development of a market agenda and, in some cases, a social policy agenda. One of the Swedish companies saw addressing racism in the workplace as a contribution to addressing racism in Swedish society more generally.

While all companies had a reputation for managing diversity, the extent to which they embraced the full range of equality dimensions varied considerably. A few had moved little beyond gender but had at least embraced gender pro-actively. Some had engaged with racial harassment as an issue but without valuing racial differences as an asset. Few had innovative approaches towards disability, sexual harassment or age. Indeed, the more sophisticated employers in terms of developed policies and practice shied away from equality groups and used a discourse of valuing the individual, ignoring rather than addressing group disadvantage. This is given as a rationale for not monitoring in some cases. This vision of diversity as individually focused is one of the fundamental

differences between managing diversity and mainstreaming equality.

Most of the case studies are from the private sector and include examples where diversity has been embedded into the organisation and culture. One clear finding is that those employers where diversity was embedded at the inception of the organisation appeared to be particularly successful in establishing a diversity culture.

Advantaged not disadvantage (AND): A project to establish new models of initial training for disadvantaged young people based on the assessment of current provision in 5 EU geographic areas

LdV Id.3886

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- the National Social Research Centre (EKKE), Greece.

Countries: Finland, Greece and the UK.

Period: during 1997.

Final report: SQW Ltd: "Advantage Not Disadvantage (AND)". Final report for Finland, Greece and the UK." March 1998.

Summary

The principal aim of this project is to establish new models of initial training for disadvantaged young people based on critical assessments of the current conditions in 6 EU geographical areas.

However, the final report concerns three countries: Finland, Greece and the UK.

Some highlights (Finland, Greece, United Kingdom)

Respondents were invited to value the quality of training design, delivery and development. Another objective was to consider the most important external influence on training development, and to suggest possible changes.

All countries share common results: confidence about the content of training was particularly high, but confidence about preparation for work and follow-up was very low. Many respondents did not comment, negatively or positively, because they did not have enough information:

a) definitions of 'disadvantaged' in the three countries differ. In Greece and Finland some organisations do not have formal definitions of disadvantage. In all three countries the commitment towards disadvantaged young people appears very individual and fragmented. Young people needing support are not a specific target group;

b) young people and employers do not play a decisive role in training design, and trainers would like to play a greater role than at present. There is no evidence of a design of training with reference to good practice elsewhere or external comparisons;

c) in all three countries there is little confidence in the quality of vocational guidance. Criticisms are made of pre- and post-training course assessment and guidance support. Most assessments are carried out by training providers in all three countries;

d) young people feel that assessment does not take account of their needs and strengths. Opinions on final assessment experience are different: positive in Finland, patchy in the UK, and poor in Greece. Follow-up systems were not found in any of the three countries.

e) formally valued and recognised training outcomes are funding driven. Policy mak-

ers agree that outcomes are limited and narrow, but respondents underlined a need to broaden outcomes to include social, educational and personal development aspects;

f) formal accountability is almost exclusively with the commissioner and training provider, not with the beneficiaries. It focuses on setting targets rather than focusing on the engagement of young people, good practice, and benefits to young people;

g) quantitative and qualitative monitoring is taken seriously by all agencies in the UK; this is not observed in Greece and Finland. Respondents would welcome greater formal accountability to the beneficiaries of training;

h) contractual cooperation is rare in the UK and in Greece, and absent in Finland. Training and social-care agencies do not work closely together. UK respondents are more involved in cooperation than in Greece and in Finland, where the systems appear more obstructive and respondents are more suspicious of such arrangements. Formal processes of cooperation do not exist in all three countries;

i) budgets are allocated according to projected needs and priorities and to the particular type of training programmes already in place. In the UK and in Finland joint-funding arrangements are increasing. In all three countries the major funders of initial training are national governments. Funding structures and authorities are considered to be remote, centralist and inaccessible to implementers or other stakeholders. In the UK and in Finland the negative impacts of compulsory training policy caused concern.

Conclusion and recommendation

Respondents in all countries mentioned government policies and priorities, EU directives and funding requirements as factors to be considered in relation to training design and development. There were also many other factors such as regional and organisational policies, lack of information on youth requirements, local needs and local agency management/board priorities.

In summary, the following possible solutions have been identified at national and international level:

a) *definition of disadvantage.* First, a review at national level is needed to arrive at a more specific definition which is relevant to interventions needed. Policy makers have to ensure that definitions are workable. Second, at EU level, the definition of disadvantaged groups should be positive and holistic. After this, an accreditation of individual assets, deficits and needs for assistance should be identified. A development team should be employed to examine what is required to achieve this;

b) *knowledge of disadvantage.* Policy makers should develop stronger national standards for measuring knowledge, skills and competences by a range of criteria. Annual awards should be established for regional centres of excellence and visits, exchanges, and secondments to transfer knowledge should be funded. Commissioners and training providers should be consulted by a group of young people and should establish national systems on the basis of registration networks, chartered organisations, twinning networks, etc. Another important point is the development of a training structure for agencies across the country. At EU level twinning relationships should be established between commissioning and training provider agencies. Interaction on the basis of clear development exchange bids should be developed;

c) *commitment to disadvantage.* Policy makers should commit themselves more at national level and ensure quality provision. Commissioners and providers should foster young people's involvement in training development, knowledge development, joint delivery etc. Funding should not change with political shifts or public opinion. At EU level there is scope to improve national provisions via more demanding European requirements. A European team should review and develop more meaning-

ful definitions of, and criteria for, funding for young marginalised people, involve key beneficiaries in design and development, support monitoring and evaluation and assess impacts and achievement. A development team should also examine how this could be implemented and monitored;

d) *design of training.* Solutions at national level could be origination of standards for planning and design, of feasibility and piloting of new methods, and the examination of practice elsewhere.

Requirements should be:

- effective control and constant monitoring of working methods;
- involvement of young people and stakeholders in the design, appraisal, awarding and monitoring of contracts;
- assistance for the commissioners to implement such development;
- at EU level, a funding of three yearly awards to one area in every country for joint agency bid should be considered. Aims are: to develop and achieve an improved design of programmes as suggested above; to disseminate the methodology and approach; and to monitor and evaluate the impact and changes;
- attracting and marketing: at national level policy makers should establish agencies to support tailored marketing approaches to young people as 'training consumers'. Peer-marketing possibilities should be explored to raise awareness in school of vocational training options. At EU level, programmes should be developed to identify pilot projects that explore the development of better marketing strategies of training 'to develop attractive and accessible training for young people';

e) *guidance and assessment.* Policy-makers should guarantee that career guidance and advice sessions are available for every young person, via trained careers personnel, independent of the training provider. Policy makers are responsible for introducing criteria of progression, rewarding such progression, setting up new standards of initial and ongoing assessment, and further appraisal of individual talent, strength and ability by independent assessors. At the EU level, it is important to guarantee that every young person gets the opportunity of initial, ongoing and final assessment;

f) *delivery of training.* A national a review of quality is necessary. The following initiatives should be undertaken:

- to establish national maps to explain how the entire process works,
- better methods to link supply to demand in the training domain,
- guidelines to select and monitor trainers,
- utilisation of external examiners, young people, employers in the selection process,
- examination of employability success factors of different kinds/ models of training,
- review of incentives and pilot progression reward systems to maximise continued participation,
- new regulation for structural funded training at EU level,
- any training-supported course must have evidence of relative local demand,
- every training course must give a marketing guide/map tool to young people and employers that explains what is offered and what could be expected from the training course.

g) *training outcomes.* A review of outcomes includes the measurement of how inputs affect outputs, of incentives for commissioners and trainers to broaden scope, and of progress made by individual starting and

personal development changes in outcomes. At EU level there is a need for structural funds to extend outcomes. Also important is the utilisation of the external examiner system to ensure quality evaluation.

h) *accountability, management and steerage.* Policy makers have to draw up criteria for the satisfaction of the beneficiaries, which the implementers must meet as part of targets. External examiners linked to local areas should advise on the development of accountability. National reviews should examine the impact of trainee feedback on affecting improvement and favouring changes. At the EU level it seems necessary to:

- examine the adequacy of monitoring and evaluation in ensuring accountability,
- develop support systems for projects to design appropriate monitoring systems,
- foster collaboration and partnerships,
- establish commission agencies for the promotion of inter-agency networks,
- reward projects that employ cross agency resources and management,
- review how/if structures facilitate/ obstruct collaboration,
- reward the actions,
- examine good practice in details and disseminate models.

A European directory of contractual multidisciplinary design for training partnership should be elaborated which includes core information about features and contact details (also on the Internet).

i) *funding.* National reviews of the impacts of funding, more incentives by identifying good practice and quality inputs are considered as solutions at national level.

j) *other measures are to:*

- develop structures of constant interaction and cooperation between financial decision-makers and implementers,
- provide incentives for multi-disciplinary/ joint resolution of current problems,
- develop systems for consultation throughout planning and reviews,
- change the nature of responsibility, attainment of attendance, tenure, qualifications, etc.,
- penalise delays.

Route counselling as a means of improving the access to and effectiveness of training and employment initiatives for deprived groups in the labour market

LDV n: B/95/1/223/III.2.a/FPC – Id. 3898

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Countries: Austria, Belgium, Greece, Ireland, Italy and the Netherlands.

Period: 1996 to 1997.

Final Report: "Route Counselling for Disadvantaged Groups on the Labour Market: Explorative Study in six Member States". HIVA, Leuven, 1999.

Summary

Route counselling is conceived as a dominant movement in the area of training, guidance and employment measures towards an indi-

1496 BEST COPY AVAILABLE

vidualised, longitudinal approach. New forms of reintegration for the (long-term) unemployed have been developed in several countries. The common trend is that, far from being isolated, training and job placement activities are more and more embedded in an integral scheme, aimed at re-integrating various disadvantaged persons or groups in regular jobs through an intensive, systematic approach known as 'route counselling'.

The subject of such 'route counselling' can be an individual person or a target group. This approach involves different organisations or actors together deciding the route. It is increasingly seen as the key factor in reintegration strategies for disadvantaged persons or groups. In addition, the demand side of the labour market has come to discover 'route counselling' as a method of recruiting, training and selecting new personnel from target groups, such a ethnic minorities, and reintegrating women and the long-term unemployed.

The aim of this project is to analyse how far the new approach is being implemented, which instruments and services are involved, to consider the role of success and failure factors and to assess the extent to which different types of practice are transferable. The analysis in this report is based on the current debate and state of the art in six Member States: Austria, Belgium, Greece, Ireland, Italy and the Netherlands.

This report comprises five chapters:

a) chapter 1 gives an introduction to the definition of the key concept, and highlights the key dimensions and basic characteristics of route counselling;

b) chapter 2 provides an overview of the actual situation on route counselling in the six countries, and a broader overview of the institutional and labour market context;

c) chapter 3 deals with the specific situation of route counselling in each country, since the cases from the six countries do not demonstrate just a single type of route counselling project;

d) chapter 4 focuses on the critical factors and the consideration of strengths and weaknesses based on good example;

e) chapter 5 identifies the common functions and tasks necessary to implement route counselling. It provides a profile of the professional roles associated with implementing the core elements of route counselling in the practice.

Over 45: Causes of exclusion and the role of lifelong learning.

LDV Id. 5048

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Countries: Finland, Italy, Spain and Sweden.

Period: in 1997 and 1998.

Final report: "Over 45: causes of dismissal and the role of lifelong learning". January 1999.

Summary

The impact of population ageing on employment and on the labour market is one of the most pressing issues confronting European society. On the one hand there is an increase in the average age of the economically active population in the EU; on the other, the continuous lowering of labour force exit thresholds and the existence of age discrimination

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in the labour market, means that people over 40 are regarded as nearing the end of their working lives.

The European Observatory on Ageing and Older People (EOAOP) was established in 1990 to monitor four key policy areas:

a) incomes and living standards,
b) health and social care,
c) social integration, and
d) age and employment.

The first major EOAOP report identified five relevant forms of discrimination concerning the over-45s, as follows:

a) early loss of employment,
b) discrimination in the recruitment process,
c) exclusion of the older unemployed,
d) exclusion from training,
e) discrimination at retirement age.

This study has provided a picture of the approach of four Member States (Spain, Italy, Sweden and Finland) towards continuous training / life-long learning. The consolidated experience and tradition in educational interventions of the Scandinavian countries may be very important for the rest of the EU, but also Spain shows what can be achieved, even from a relatively low base, when the political element is present.

Recommendations of the research are the following:

a) *at EU level*, the Commission should disseminate examples of good practice and encourage the Member States to develop continuous training/life-long learning;

b) *at national level*, each Member State should create a national strategy on life-long learning / continuous training, demonstrate a good practice in the public sphere and, introduce special initiatives such a 'knowledge lift';

c) *at the enterprise/organisational level*, the social partners should emphasise continuous training and its importance for the economy;

d) *At the older-worker level*, these have to update their skills and to take advantage of the education and training opportunities, which are available.

In the cases examined there are substantial differences among the countries, reflecting the different approaches between north and south. In the two Nordic countries there is already a history of public commitment to training and acceptance of the principle of life-long learning. These countries have developed a partnership model between governments, municipalities, trade unions and workers. The initiative in Sweden constitutes a good reference for the other European countries, because it shows that even the most excluded older workers can be drawn into continuing education by specially targeted measures.

In Italy, on the contrary, there is no national legislation on life-long learning, participation is low and only since the early 1990s was this recognised as an issue. Spain also records a low participation rate; however, it is more advanced than Italy in terms of vocational training and development of a national strategy for life-long learning. Spain has created a vocational-training system linking the Ministries of Education and Labour to the social partners. In 1997 Spain started a four-year implementation of continuous training agreements, which covered a wide range of training activities.

The 12 case studies (three in each country) chiefly reflect the national frameworks; however these are not national in a narrow sense due to the presence of several multinational enterprises. The report included an analysis of the 'over-45' labour market, an analysis of the causes of early exit and of income support mechanisms, and an analysis of adult educational systems, with particular consideration of vocational training mechanisms and lifelong learning practices.

The labour market among 'over 45' workers and lifelong training systems: country reports

Finland

Unemployment is a substantial problem in the more advanced age groups; the 45-64 year group registers higher unemployment than average.

There is a substantial proportion of early retirements: in 1995, the percentage of pensioners in the 45-54 age group was 11.6%, in the 45-49 age group 36.7% and in the 60-65 group 83.9%. The main reason for early retirement is invalidity.

Approximately 40% of people between 40 and 45 years old only have a compulsory school certificate. Social-security provides the unemployed with a benefit system that accompanies them up to early retirement age. Preventive measures are missing and the unemployed over 50 have no access to training, in contrast to younger age groups.

48% of the entire 18-to-64-year population takes part in adult education; this percentage is constantly rising. There are two types of adult education:

a) voluntary adult education covers just 25% of the population group and has a mixed form of funding;

b) personal education covers 70% of the population group and is aimed at re-qualification. It is financed by social security institutions and insurance companies.

The concept of lifelong learning was introduced in the Finnish program in 1995. The main objectives are:

a) continuous training,

b) the promotion of cooperation between work and educational institutions,

c) increasing knowledge in the labour market

d) the development of the European scope of training.

The most important institutions of lifelong learning are the open colleges. They were founded at the end of the 19th century and by 1990 they were 278 in number. Their principal objectives are:

a) to help people in their personal development,

b) to create cultural equity, improve skills and provide vocational training and complementary basic education.

The users are normally graduates, service workers rather than manufacturing workers, and people over 50.

Italy

In Italy there is a low employment rate; in 1996 it was 52.1% compared with the average of 60% to the EU. The unemployment rate for the more mature age groups is lower than in other EU countries. The highest percentage of people seeking a job is among women, though, after 55 years, the proportion is similar between the two sexes. Compared with other developed countries, there is a higher rate of long-term unemployed. The proportion of old people seeking employment decreases with age. People with higher qualifications remain employed longer than those with lower qualifications.

The Italian social-security system protects the working position of almost all dependent workers with a stable contract ('job for life'). This should undergo important modifications, and include a development of active work policies, including vocational training for young and old workers.

The demand for workers with a precise qualification has led to consideration of the role of training in the production process. In the context of reform of its welfare system, training policies are perceived as a potential innovative lever for labour market policies.

The so-called '150-hours' course was established in 1973, following an agreement with metal workers, stipulating the 150 total hours of paid training added to the same number of

hours of the workers' own free time. Thise can offered a lot of workers the opportunity to get the basic education that they missed.

The ministerial decree no 455 of July 1997 'Adult education. Education and training in primary and middle school' represented an important initiative. It aims to promote collaboration between school and local communities, the world of work and the social partners, and also to activate an integral system between professional education and training.

However, it is not easy to outline the characteristics of continuous training in Italy, because this mechanism is new and still under definition.

Spain

Spain records a very high unemployment rate both among young and old people. There are two types of contracts specifically aimed at the 'over 45s':

a) the permanent contract: this kind of contract, which was revised in 1997, foresees:

   - the elimination of the requirement that an individual be registered on the unemployment list for more than a year;

   - the right, for the contracting firm, to a discount on the company's fee payable to social security and

   - the elimination of the obligation for enterprises to maintain the same personnel for at least three years.

b) the substitution and replacement contract for early retirement: this is a measure to support youth employment. Its purpose is to foster the contracting of unemployed workers to substitute workers who opt for early retirement at the age of 64 (anticipating retirements by a year).

More than 80% of unemployed 'over-45' have taken advantage of this form of contracting that is generally capable of covering the lowest qualifications.

With the industrial crisis of the 1970s, the employment promotion fund (FPE) was created to implement re-insertion policies, fundamental for the re-employment of workers under 55.

The Spanish continuing training system is organised into three areas: initial vocational training (FPR); occupational vocational training (FPO); continuous vocational training (FCO).

In 1997 Spain started the four-year period for the application of the continuous training agreements. This is a combination of training actions carried out by the enterprises, workers or their respective organisations, aimed at improving skills and qualifications and also the re-qualification of workers.

In recent years, the theme of continuous vocational training has been at the centre of interest for the government and the social partners for two reasons: first the recognition of the strategic value of training to increase economic competition, and, second, for the role that FPC can carry out in e social promotion of workers.

The concept of lifelong learning has a vague definition in Spain, because it can encompass a wide range of activities

Sweden

In the post-war period until 1990 the unemployment rate was between 1 and 3%, afterwards it increased to approximately 8% and, in 1997, it reached 9.8%. Most of the unemployed women and men come from the manufacturing and the public sectors. Most affected is the 55 to 64 age group. Those over 45 have a lower degree of education: 83% of the long-term unemployed have a compulsory school certificate (39%) or a vocational school diploma (44%). Those most at risk are women with a low education level.

In Sweden, early retirement means a permanent invalidity pension given to people between the age of 16 and 65 whose working capacity has been permanently reduced by a quarter as a result of either illness or other

1500

physical and mental disablement. In 1990, it was calculated that invalidity pensions awarded to the 60 to 64 age groups were six times greater than for the 45 to 54 age groups. This peak in early retirement reflected the program of professional rehabilitation conducted by the social-security offices as well as the specific crises recorded in the Swedish economy.

Lifelong learning is intended to combine education and learning processes that last throughout the working life. For Sweden we can talk of two generations of lifelong learning approaches: the first one is more humanistic, aimd at improving the quality of life, while the second, which was developed in the 1980s, is more linked to the economy.

The principal objective is to create 'schools for everyone', where knowledge and aptitudes can be developed. However, adult education does not only consist of public schooling, but there are also employment training programs targeting unemployed adults and people in a state of occupational risk.

A new initiative of the Government, the 'knowledge lift' aims at substantially reducing unemployment. The main targeted groups are the people between 25 and 55, who attended or completed three years of upper-middle school. The number of unemployed attending this program is much more pronounced than in any other program aimed at adult education: only 20% of the participants were not unemployed in the last 7 years; of these 28% are 'over 45'.

Conclusion

The following points emerged in this study:

a) lifelong learning is an historical, theoretical and practical model of adult education, focusing on the development of the capacity for, and pleasure of, learning and on the quality of life of individuals as well as of the community;

b) educational institutions based on lifelong learning are to be found in places outside the work environment;

c) continuing professional training includes professional up-dating and organising activities, as well as courses in the workplace; it is based on different logical and pedagogical assumptions from lifelong learning;

d) in Italy and Spain we cannot really speak of lifelong learning, but the area of continuing training for adults, in the workplace and also outside, is close to the concept of lifelong learning we find in the Scandinavian countries;

e) both the notions of lifelong learning and continuing training are wide-ranging terms that encompass numerous concepts and activities. In Italy and in Spain continuing training is limited to the workplace: government and the social partners have only recently begun to underline the potential aspects of permanent adult education in relation to production changes and employment crises;

f) the high rates of unemployment generated different reactions: in the Scandinavian countries there is a demand for an educational system for adults, focused on professional re-qualifications and following a more active role in labour market policies;

g) in Italy and in Spain there is an interest in the development of adult educational systems which are more focused than in the past on training 'during the whole length of working life' and, according to very recent developments and agreements, on professional re-qualification.

h) the effects of the interest expressed in lifelong learning cannot be evaluated yet because consolidated practices are still being redefined in Sweden and in Finland, and interest arising from previous experiences is being developed in both Italy and Spain.

Lifelong learning policies in European cities and new employment opportunities for disadvantaged people (POLLlis)

LdV Id. 5043.

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- Istituto Europeo di studi sociali- Associazione Europea. Italy;
- ÖIBF (Östereichisches Institut für die Berufsbildungsforschung), Austria;
- The Tavistock Institute of Human Relation, UK.

Cities involved in this project: Auxerre, Barcelona, Berlin, Bologna, Turin, Edinburgh, Sheffield, Espoo, Évora, Granada, and Steyr.

Period: in 1997-1998.

Survey report: Cristina Brecciaroli, Claudio Dondi, SCIENTER (eds.): "Lifelong learning policies in European cities and new employment opportunities for disadvantaged people". Bologna, March 1999.

Summary

The main aims of this study were:

a) investigation of major lifelong learning initiatives promoted by European cities;

b) developing tools and methodologies useful for those wishing to initiate new lifelong learning policies or to improve the ones which are already established.

The survey has been structured in two phases. The first is a comprehensive review of European learning cities in countries belonging to the EU and also outside the Community. The second is a comparative analysis of e cities selected as interesting cases and studied in greater depth.

Analysis

The following 20 points have emerged from the analysis of the practices observed and in-depth case studies:

a) lifelong learning is a priority in the regeneration and revitalisation programmes concerning cities and regions affected by substantial industrial crises;

b) most of the successful cases depend, among other things, on the formal legitimisation of city authorities to intervene in the field of education;

c) a formal declaration of willingness to be a 'learning city' or an 'educating city' often accompanies the effort of coordination and articulation of lifelong learning measures, although it is not rare to find similar policies undertaken in cities that have never made such a public declaration;

d) leading cities such as Barcelona, Turin, Bologna, Gothenburg and Edinburgh have generated affiliation and formal declarations by other cities of the same regions and countries, and have been an example for many others cities both in countries within and outside the European Union;

e) the term 'Learning City' is well established in the UK and in the Nordic Countries, but it is not easily accepted in the rest of Europe;

f) six main aims of lifelong learning initiatives at city level were already identified by the OECD study of 1992 "City strategies of lifelong learning". These, which are confirmed by the PoLLlis survey, are as follows:

- linking lifelong learning to community participation;
- creating learning for the whole life cycle;

1502 BEST COPY AVAILABLE

- co-ordinating learning institutions;
- making learning more accessible;
- building a learning strategy for local development;
- building a cultural strategy.

g) lifelong initiatives at city level seem to be more frequently embedded in broader policy areas, especially concerning employment and social inclusion of disadvantaged groups;

h) in terms of concrete content of initiatives, the two dominant trends consist of measures to integrate and improve information provision on all learning opportunities in the city and the systematic use of information and communication technologies (ICT) to improve access to the same learning opportunities. These two elements are then combined in multiple ways with other measures contributing to address specific target audience and priority areas;

i) citizens' requirements are considered very important, though in most of the cases the actions observed are the result of initiative undertaken by the city administration without any 'citizens' input';

j) experiments in most of the cities analysed show that a complete coverage of potential target populations is not easy. In most of the cities some classes of users (e.g. long-term unemployed, cultural minorities, women) have absolute priority;

k) strong political sponsorship is a precious resource for start-up and consolidation of an initiative, but it should be as broad as possible to guarantee sustainability;

l) broad representatives of relevant actors in a 'Learning City Board' may certainly help to include a more complete range of possible actions. However, effective policies are often based on a coherent and cohesive group of partner institutions with a limited number of priorities;

m) a politician, a company, an association or an institution take the most of the initiatives as part of their substantial or public relation priorities. Final users could do much more to support expression of ideas and suggestions;

n) coordination is another misleading keyword of lifelong learning initiatives at city level: there is coordination of informational sources on learning opportunities, but coordination of supply agencies is far from being achieved;

o) in some of the cities surveyed there is a 'demand-based' approach, i.e. segmentation of target populations and articulation of learning opportunities specifically directed to each relevant target group;

p) competition among initiatives and promoters in the field of lifelong learning seems to play a different role in a learning city: when the process is starting, competition may be disruptive; in a second phase, when some progress has been made, competition among promoting agents and concurrent initiatives could be a factor of dynamisation;

q) the availability of economic resources is an essential factor in guaranteeing the feasibility and sustainability of lifelong learning initiatives at city level, but it is not certain that additional 'dedicated' LL resources are really a necessary condition of success;

r) there is no culture of evaluation in the most of the cases studied by the survey;

s) owing to the lack of evidence from the initiative results, cooperation among cities is stronger in the design than in the monitoring phase. External comparisons of the results are rare. This gap of comparison builds the fundamental case for the learning cities forum initiative proposed within the PoLLLis project;

t) a general improvement in the availability of information and some rationalisation in the provision of resources for lifelong learn-

ing are necessary steps in building a system dimension around the many individual actions that can be observed in European cities;

There is also a guideline offering a starting point of common understanding and experience for all those people involved, at city level, in the process of policy-making related to the theme of lifelong learning. This Guideline contains:

a) a simple conceptual framework in which to place the process of policy-making in the field of lifelong learning;

b) practical suggestions on how to define, design, implement and evaluate local lifelong learning public initiatives in an urban environment, sometimes with concrete examples of cities studied in the PoLLLis survey.

Learning City

Citizens participate in policy-making to shape their educational and learning agendas; the city is responsive to its citizens needs and provides appropriate learning environments and opportunities.

'A learning city addresses the learning needs of its locality through partnerships.... learning cities explicitly use learning as a way of promoting social cohesion, regeneration and economic development, which involves all parts of the community.'

The four main phases of a policy cycle are:

a) orientation: political priorities are accorded the main aims of public policy and are the result of the interaction between the main social and political parties;

b) definition: how to implement the main goals is the object of studies, comparisons and selections;

c) implementation: actions and programs are conducted and monitored, the beneficiaries have to provide feed-back;

d) evaluation: this one is not an isolated phase, but a continuous process which is present in the other three phases.

Policy orientation

This study identifies six elements of policy orientation that were confirmed by the PoLLLis survey and can be found, to different extents, in most city policies of lifelong learning:

a) coordination of education and training providers: cities can play an important role in coordination, partnership and inter-institutional integration of learning opportunities for citizens. They can break administrative and bureaucratic barriers and bring together the public and the private sectors with common objectives;

b) making learning more accessible: learning has to be more accessible to all citizens, but especially to the socially, culturally, economically and physically disadvantaged;

c) building a training strategy: learning is economically relevant, i.e. many lifelong policies at city level are dedicated to the generation of competences that would allow citizens to find relevant jobs and the economic system to compete in the global arena;

d) building a cultural strategy: a cultural policy has to stimulate participation in cultural activities and to promote an attractive cultural image of the city;

e) linking lifelong learning with community participation: citizen participation in decision-making processes may help to regenerate the sense of community that is lost in large urban centres, but this participation should be closely combined with a particular attention to the needs of all citizens;

f) creating learning for the whole life cycle: this idea is an essential part of the concept of lifelong learning, but it implies a special effort for the citizens that are out of the education and training processes.

Focusing on the above aims there are many initiatives dedicated to aged people, such as universities for the third age or 'intergenerational' learning. The last has the advantage of not pushing old people into a special 'reserve'.

It is difficult to codify and standardise the policy orientation and there are four *risks* in this phase, as follows:

plain policy borrowing, without sufficient analyses of what can really be transferred to other city contexts and what cannot be transferred and should be eventually replaced;

ignoring previous experience developed elsewhere and basing priority definition on a local set of references;

concentration on the same aims and target groups, without consideration of the whole scope of lifelong learning;

ignoring or bypassing the limits of city administration institutional competences may bring to unsolvable institutional conflicts with the central or regional administration.

Policy definition

Policy definition has to do with considering and finally choosing the best ways to achieve the agreed goals. Several steps were taken to promote awareness and dialogue between citizens and the city as a learning environment:

a) conducting in-depth analyses of needs, resources, and existing actors;

b) reviewing existing initiatives and past experiences at local level;

c) considering examples of concrete measures implemented elsewhere;

d) defining action lines to implement policy aims;

e) asking interested actors and citizens for ideas and suggestions;

f) designing an implementation plan;

g) developing criteria for selection of proposals;

h) choosing concrete actions;

i) designing a basic evaluation plan, clarifying criteria for success and monitoring approaches;

j) constituting a steering committee and an operational structure to conduct actions.

Policy implementation

How to put policy into practice with regard to learning cities; the leading roles in taking forward the learning city from concept to reality are played by people and institutions.

The central ideas are:

a) partnerships are the necessary basis of any lifelong learning policy and they have to reflect the 'vision' of the learning city, its main goals and agendas;

b) central coordination to guarantee system impact and rational use of resources; many initiatives should be encouraged and even competition with each other can be productive;

c) all possible options for finding lifelong learning must be considered, public and private, new project funding but also current funding for education, training, museums, libraries etc.;

d) the learning city policy has to profile and position its human, intellectual and social capacity in relation to global markets;

e) the learning city can be considered as a collective 'learning organisation': it has to identify, classify and assess the skills base of the community; to develop plans for effective training and learning arrangements to address 'skills' gaps; to widen the participation for excluded groups;

f) the involvement of ICT (information and communication technologies) is important to increase participation in learning for

socially excluded peoples, in developing competences and in providing accreditation for informally acquired skills and experience.

Policy evaluation

There are three main steps in carrying out an evaluation; as follows:

a) exploring and planning: the key points are clarity about issues, what is the purpose of the evaluation, who is the audience, what kinds of things need to be focused on and how evaluation will be integrated into the implementation of the Learning City initiative;

b) data collection and analyses or carrying out the evaluation; the main stages involved are choice of the evaluation criteria, the choice of the methods and techniques to use for data capture, managing and co-ordinating data collection, including analysing the results;

c) utilisation and dissemination: it is important to give the participants a sense of how the initiative is progressing and what are its outcomes by running feedback events. Dissemination means not only a circulation of a final report, but different communication approaches such as short summaries of the evaluation; journal articles for other researchers; topical articles in the trade press; workshops for specific audiences; feedback seminars for key decision-makers; a web site, including an electronic discussion group (for example the PoLLlis Learning Cities Forum).

The POLLlis Learning Cities Forum (LCF)

The LCF is not an association, but an informal, structured and focused gathering of cities that want to work together and to prepare the ground for other partnerships. It is a project generator, a city-based core structure that allows the validation of surveys and analyses.

It was established to design and run joint lifelong learning initiatives and to exchange experiences and opinions on a wide range of issues.

Role and structure

The LCF aims, by means of surveys and analyses, to facilitate the understanding of lifelong learning at city level, to plan and design joint lifelong learning initiatives, to support the formative evaluation of the individual and joint lifelong learning initiatives at city level and to carry out the intermediate and final dissemination of the outcomes to other interested cities.

Through the LCF, a collaborative learning environment has been created at European level which offers the opportunity for interested cities to gather and progress in their lifelong learning policies.

The LCF is composed of a research organisation, with a reputation and experience in the area of education and training, leading the study activities, and the city administrations, leading the learning cities forum that will orient and validate study activities.

Only a systematic research approach integrated with a validation exercise can produce effective progress in the area of policy intervention.

LCFs offers to cities

a) collaboration with consolidated research organisations;

b) 'value added': competence map of learning cities and benchmarking strategy;

c) exchange of information and experience in different fields of lifelong learning;

d) the outputs of the PoLLlis project: the outcomes of the many projects constitute the base on which the LCF is working, facilitating general methodology and studies on which to develop its activities;

e) communication tools available. The website of the project located at the IMFE (City of Granada) is regularly being updated and

introduces information about the general progress of the project and related issues. It will soon offer a chat facility for interested cities.

f) established general contacts with city representatives.

The PoLLlis project – lifelong learning policies in European cities and new employment opportunities for disadvantaged people- has the main aim of documenting and analysing new policies addressing social exclusion and exclusion from the labour market of the disadvantaged in society.

1567

Targeted socio-economic research (TSER) Project synopses[1]

Targeted socio-economic research (TSER) invited, within the fourth framework programme, proposals for research from the European research community on three main areas of economic and social research:
i) science and technology policy,
ii) education & training (ET) and labour market integration,
iii) social integration and social exclusion.

The increasingly severe economic and social problems facing European societies required a more co-ordinated and better funded and targeted research and policy response than before. The main objective of the TSER (1994-1998) Programme therefore was to build up both the knowledge base and research infrastructure for high quality, policy relevant, comparative European socio-economic research at both national and Community level.

In Area II, research in education and training, the objective was to help link advances in science and technology and rapid economic / technological change to the effectiveness of the linkage / relationship between ET systems – in building up human capital, labour market entry and in-firm insertion / training processes for attracting and using high quality labour.

Within this broad area of research the programme had three main objectives – to strengthen the European research base and improve communication and networking amongst European researchers, to develop and strengthen the knowledge base and to improve its quality and comparability, and to help apply it to the challenges facing European economies and societies.

From 1998 until 2002 the key action (under the fifth framework programme), builds upon and extends the work carried out in the TSER programme. It is implemented through research and technological development (RTD) projects, thematic networks, research infrastructure and various types of accompanying measures[2].

[1] The compilation was carried out by Silvia del Panta, Cedefop
[2] For more information on the key action programme, please refer to Van den Brande (2000) in this report.

Table of contents

Introduction to the project synopses 430

Themes: Governance, funding and teachers 430
1. Education governance and social integration and exclusion in Europe 430
2. Public funding and private returns to education (PURE) 431
3. Teachers training, reflective theories and tele-guidance: prospective and possibilities in teachers training in Europe (thematic network) 432

Themes: Learning and competences 432
4. DELILAH: Designing and evaluating learning innovations and learning applications 432
5. European network for educational research on 'assessment effectiveness and innovation' 433
6. Forum of European research in vocational education and training (thematic network) 434
7. Implementation of virtual environments in training and education (thematic network) 434
8. Life-long learning: the implications for universities in the EU 435
9. New assessment tools for cross-curricular competencies in the domain of problem solving 436
10. Work experience as an education and training strategy: New approaches for the 21st century 436
11. Work process knowledge in technological and organisational development 437

Theme: Enterprises and human resources 438
12. LATIO: In-company training and learning in organisations 438
13. The role of human resource development within organisations in creating opportunities for life-long learning – concepts and practices in seven European countries 438
14. DELOS – developing learning organisation models in SME clusters 439
15. Small and medium enterprises in Europe and East Asia: Competition, collaboration and lessons for policy support. 440
16. Small business training and competitiveness: Building case studies in different European cultural contexts. 441
17. SME policy and the regional dimension of innovation 441
18. Self employment activities concerning women and minorities: Their success or failure in relation to social citizenship policies 442

Theme: Employment and the labour market 443
19. Educational expansion and labour market (EDEX) 443
20. Full employment in Europe (thematic network) 443
21. TRANSLAM – social integration by transitional labour markets: New pathways for labour market policy 444
22. Innovations in information society sectors – implications for women's work, expertise and opportunities in European workplaces . 445
23. New forms of employment and working time in the service economy 445
24. The strategic role of knowledge-intensive services for the transmission application of technical and management innovation 446
25. Regional innovation systems: Designing for the future. 446

1509

Theme: Transitions and social exclusion 447
26. European panel analysis 447
27. A comparative analysis of transitions from education to work in Europe (CATEWE) 447
28. Schooling, training and transitions: an economic perspective. 448
29. Enhancing the participation of young adults in economic and social processes: Balancing instrumental, biographical and social competencies in post-school education and training 449
30. Employment and exclusion (thematic network) 450
31. Globalisation and social exclusion 450
32. Growth, inequality and training 451
33. Information society, work, and the generation of new forms of social exclusion 451
34. Labour demand, education and the dynamics of social exclusion 452
35. New employment opportunities in the third sector. An evaluation of innovative policies for social integration in Europe (NETS) 453
36. Technology, economic integration and social cohesion 453
37. Youth unemployment and processes of marginalisation on the Northern European periphery 454
38. Youth unemployment and social exclusion in Europe 455
39. Youth unemployment and social exclusion 455
40. Education and training, new job skill needs and the low skilled 456
41. Changing working life and training of older workers 457
42. Crivet unemployed. The effectiveness of labour market oriented training for the long-term unemployed 458
43. Employment precarity, unemployment and social exclusion 459

Introduction to the project synopses

The project synopses below have been selected on the basis of their relevance to the domain of VET. Several projects have also been referred to in several contributions of this background report. For completed projects, reference to core reports is made. Please note that most synopses are based on the original project abstracts. The contents of the final reports may differ from these descriptions. More information and links with each project can be found on the key action homepage.

For more information on the key action 'Improving human potential' visit the website of the Research Directorate-General, Directorate F – Human potential and mobility (http://europa.eu.int/comm/dgs/research/tser1/~ html or: http://www.cordis.lu/tser/home.html). There you will find:

- General information about the key action, its major goals and means of implementation;
- A full list of projects that have been funded till now by the TSER Programme (4th Framework Programme) and by the key action, including the composition of consortia, coordinator addresses, synopses and results (if available);
- Publications, proceedings and papers (in some cases also for download);
- Forthcoming events and interesting links to several socio-economic sites, research associations, networks etc.;
- Discussion forum on various research issues.

Website: http://www.cordis.lu/improving/ and in particular the key action homepage: http://www.cordis.lu/improving/src/hp_ser.htm
Postal address: European Commission; Research Directorate-General; Directorate F – Human potential and mobility; Rue de la Loi 200; B-1049 Bruxelles – Wetstraat 200; B-1049 Bruxelles; Office SDME 3/62; Tel.: +32-2-2991111 (switchboard); Fax: +32-2-2967024
For specific queries on Research for education and training contact: Lieve Van den Brande, European Commission; Research Directorate-General; Directorate F 4–Key Action: Improving the socio-economic knowledge base; Rue de la Loi 200; SDME 4/58; B-1049 Bruxelles; Tel.: +32 02 296 3425, e-mail: Godelieve.Van-den-brande@cec.eu.int

Themes: Governance, funding and teachers

1. Education governance and social integration and exclusion in Europe

Co-ordinator:
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Abstract

In the current discourse on education governance there appear to be two overarching contradictory positions:

1. new ways to govern education are necessary in order to obtain a more fair, sensitive and efficient educational system which is necessary in order to get a more developed society who will be able to fight exclusion;
2. new ways to govern education will lead to increased segregation and decreased equity and equality in education as well as in society and will increase the amount of social exclusion.

Both positions can be regarded as based on available empirical evidences in different contexts. Thus, it is of vital importance to analyse the restructuring of education under different circumstances and to make comparisons between cases in different contexts.

The overall objective of this research project is to identify relationships of education governance to social integration and exclusion of youth in European contexts and to discuss and propose policies on governance that will help

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to minimise social exclusion and to maximise inclusion. The project will clarify different positions within this field and inform current discourses on education governance in Europe. Of special interest are students transitions between different levels or kinds of education or from education to work or unemployment. The more specific definition of the level or age of students depends on the structure of the current educational system in its socio-cultural context.

In order to reach this overall objective the following subsidiary objectives need to be fulfilled:

- to review and analyse current research on education governance and social integration and exclusion among youth;
- to describe and analyse different national/regional systems of education in the context of educational traditions and governance strategies in different European countries;
- to describe and analyse the discourse on education governance in international organisations and the potential impact of this on national discourses;
- to analyse experiences of and strategies to deal with new governance structures in education among politicians and administrators as well as teachers and head-teachers in different European countries;
- to analyse national and international statistics on social integration and exclusion related to education;
- to describe and analyse implications of education governance for the social integration and exclusion of youth;
- to compare different national cases in Europe with a focus on relations between education governance and social integration and exclusion;
- to inform and discuss results and conclusions of this study with education actors in different context.

2. Public funding and private returns to education (PURE)

Co-ordinator:
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Abstract

The objective of this project is to study the impact of different systems of public financial support for school attendance on observed outcomes in the labour market, particularly in terms of the levels and dispersion of private returns to education and education-related inequality in earnings. This project moves into a territory not yet studied from the perspective of optimal investment in human capital, the role of student finance systems, school admission rules (free or selective entry) and school differentiation.

The project divides into four closely related issues as follows:

a) Analysis and comparison of wage and human capital structures and private returns to education between countries and within countries over time in order to uncover distinct trends as well as similarities and dissimilarities across countries.

b) Analysis of the impact of country-specific trends in educational returns of changes over time in underlying market forces (supply-side and demand-side factors), and of carefully differentiated measures of returns by type and level of education in order to highlight and compare national system of education.

c) Analysis of the structure and evolution of the national systems of education, admission rules and systems of financial support for school attendance to be used as an input in.

d) Analysis of the effects of differing systems of public support for cost of education to individuals and admission rules on the private returns to education and on earnings inequality related to differences in educational attainment.

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The results of the project will be of value to policy-makers at both the national and the EU level. It will contribute to understanding the educational implications of the European integration process and to promote the relationship between education and training, the labour market and economic growth, which are set out as two problems areas where new knowledge is needed, and thus to reaching the short-term, medium-term and long-term objectives listed for Area II of the TSER programme. Results from the project will be disseminated via intermediate and final reports, user-oriented seminars and a Web site.

3. Teachers training, reflective theories and tele-guidance: prospective and possibilities in teachers training in Europe (thematic network)

Co-ordinator:
Wim Veen, Utrecht University, IVLOS Institute of Education, Faculteit Techniek, Bestuur en Management, The Netherlands
http://www.ivlos.uu.nl/reflect/index.htm

Abstract

This thematic network for teachers training aims to strengthen co-operation in research activities among the partners involved. The research will be carried out on reflective competencies training in initial teacher training for general secondary and vocational education, using teletutoring as an instrument in school based training.

For teacher training institutions will carry out comparative studies of the development of new practices using modes of tele-guidance. These studies will bring together experts in the field of reflection and those in the field of educational telematics in teacher training.

This research includes the following activities:

a) an inventory study of research activities in the field of IT related to the development of reflective competencies in training;

b) four preparatory studies on the use of telematics as a reflection aid. These studies will focus on:

c) development of instruments to measure the reflective skills;

d) installation of the technical requirements for the research;

e) development of hypothesis and research questions. They will focus on effects of telematic intervention of teachers trainers in the reflection process;

f) development of research agenda/ design for future research by partners involved.

Themes: Learning and competences

4. DELILAH: Designing and evaluating learning innovations and learning applications

Co-ordinator:
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Abstract

This project is about educational and learning innovation. It aims at understanding of educational innovations and, on this basis, gathering empirical evidence on innovative education and learning arrangements and developing specific methodologies and guidelines for learning. This broad aim is operationalised through the following objectives:

1. to synthesise the existing research on major cross-cultural, socio-economic and pedagogic factors in education and learning, including new learning arrangements involving learning technologies, and major national policies on education and training, with a view to identify theoretical and empirical gaps in current understanding and establish the consonance or match between major educational and learning innovations and the different learning patrimonies or traditions as defined by the aforementioned factors;

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2. to assess, in a transnational and cross-sectoral fashion, the contribution of different organisational settings of learning and accessibility of learning opportunities for less favoured groups;

3. to contribute to the development of appropriate policies in the area of education and learning by firstly identifying ways in which policies can facilitate the contribution of new educational and learning arrangement in accordance with the different learning patrimonies, and secondly promoting transfer and the exchange of results across the study areas.

4. to develop methodologies and guidelines for the evaluation of new educational and training arrangements and processes in four education and training sectors.

5. to provide methodologies and tools for more effective mixes of new training products, in particular those involving multimedia.

Publication:
Final Report: SOE1-CT95-2009 – Looking at innovations in Education and Training, Framework, results, and policy implications of the DELILAH project, J. Cullen, 1998, 83p (TSER011).

5. European network for educational research on 'assessment effectiveness and innovation'

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Abstract

This is a thematic network of 19 participants who elaborate the structure for this research projects. The network aims to realise the following products:

- an electronic database (accessible via World Wide Web) containing information about characteristics of educational systems, descriptions of the participating research institutes, their research programmes and their research projects;

- integration and exchange of conceptual frameworks regarding educational indicators, and the use of expertise from the partners for producing national and European overviews of statistical information on education in mathematics, science and technology.

- exploration and identification of possibilities for cooperative pilot projects.

These products focus on the themes which are addressed in the TSER work programme (Area II), such as: development of output indicators, the 'general education' issue, cultural diversity, minorities, comparisons with Japan, and the USA, added value of schooling, multi-level educational effectiveness models, assessment of basic competencies, science and technology teaching, educational potential of new information technologies, scientific and technology literacy, implementation of science and technology options in education; and methods, tools and approaches relevant to the preparation, monitoring and evaluation of science and technology policies, and the performance of minorities in education.

The added value is the improvement in dissemination and accessibility of up-to-date information about ongoing and completed research in assessment, effectiveness and innovation.

The network focuses on primary and secondary education.

Publication:
Final Report: SOE1-CT95-2008 – European Network for Educational Research on Assessment, Effectiveness and Innovation, W.J Pelgrum, 1988, 55p (TSER009)

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6. Forum of European research in vocational education and training (thematic network)

Co-ordinator:
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http://www.itb.uni-bremen.de/projekte/forum/f check.htm

Abstract

The primary aim of this thematic network 'Forum' is the establishment of the European dimension specifically related to contents and methodologies of vocational education and training (VET) systems. In contrast to the organisational orientation of informal on-the-job training dominating the Japanese system for skill acquisition and specific task-related training dominating the United States a European dimension needs to embrace the traditional values of European societies embodied in the diversity of traditions, institutions, legislation and cultures that influence vocational education and training in the European Union. Forum associates experienced researchers and academics, in institutions responsible for VET-research and the training of VET professionals, from fourteen countries. The Forum will bring together researchers from different traditions, disciplines and cultures with the aim of defining and exploring a European dimension for VET. The Forum will also play a role in the dissemination of existing research, help to link the different networks of researchers and practitioners, contribute to the establishment of a transnational research community and will integrate the coaching and development of young researchers. It will contribute to:

- the development of a transnational research approach in VET;
- the development of a European dimension in VET;
- discover the cultural diversities as sources of innovative idea;
- improve the dissemination of research results in Europe;
- contribute to the development of a European research community in VET;
- find a European path for VET policy between unification and regionalisation as well as diversion and conversion;
- improve the co-operation between VET research and VET-practice.

The network will examine the pressures to increase the quality of VET, skill levels of those in VET, quality assurance, flexibility, and transnationality, while taking into account different responses to employer involvement, individual funding and changing work organisations.

Five Forum workshops are envisaged:

1. Common practices and values in VET,
2. VET and the labour market,
3. Organisational changes required of vocational training institutions,
4. In-company training and school to work transition,
5. The Learning Organisation.

In all cases the focus will be on the European dimension for research into the capacity for change and adaptation of education systems. Furthermore all FORUM members are involved in national, regional and European projects which will help to disseminate their case studies of good practice.

7. Implementation of virtual environments in training and education (thematic network)

Co-operation:
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http://xiram.doe.d5.ub.es/IVETTE

Abstract

The central objective of this project is to investigate the issues involved in the implemen-

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tation of 'virtual learning environments' (VLE) in post-secondary public educational institutions, as well as in training institutions. The project will focus particularly on looking for a holistic view when tackling the main issues mentioned. Within this context, the key objectives of the project are as follows:

- to map out the teaching and learning approaches in VLE, especially those arising from combining face-to-face and distance education methods in traditional institutions and companies;
- to critically assess the impact of European diversity into international VLE, in relation to common elements of curriculum, language issues, and institutional adaptation of the E&T systems to open and distance learning;
- to contribute to innovation in public educational institutions in relation to the restructuring of its functioning, the co-operation with similar European institutions and with the private sector when implementing VLE.

The network will explore problems and will open perspectives for further research. This will contribute to understand the problems of the new VLE, and to promote innovation in educational and training institutions in a context of European integration and collaboration between institutions.

The intended outcomes are the following:

- Three empirical studies on issues, problems and practices in the following areas: (i) teaching/learning approaches in virtual open learning environments; (ii) cross-cultural and academic dimensions in European diversity and (iii) Institutional/organisational factors in fostering innovation on public institutions and training companies through the implementation of VLE.
- A report integrating each empirical study with the aim of contributing to the innovation policy of both public and private institutions in developing new ways of open and distance learning based on VLE;
- A conference with policy makers, teachers, trainers and representatives of educational and training institutions.
- A report on policy implications addressed to the users groups and the wide academic community.

8. Lifelong learning: the implications for universities in the EU

Co-ordinator:
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Abstract

The general aim of this project is to investigate how the universities in the EU respond to the concept of lifelong learning (LLL) and to analyse the structural and functional implications which the application of the concept is bound to have for the universities in the 'information society'. The study also aims to investigate and discuss policies and goals of the universities relevant to LLL and raise more questions of reformulation of educational goals and strategies at a European level.

The project will identify, analyse and discuss the actual forms of involvement in LLL of the universities concerned. In addition the research will explore actual and potential policies and strategies of universities referring to LLL and will compare them with corresponding policies and strategies of international organisations namely the EU, OECD, UNESCO and the Council of Europe.

The intended outcome is to produce seven national reports, three special reports concerning the major areas of the research outlined above and a major general report synthesising the results of the whole project within a European context.

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9. New assessment tools for cross-curricular competencies in the domain of problem solving

Co-ordinator:
Jean-Paul Reeff, Minisère de l'Education Nationale et de la Formation Professionelle, Service de Coordination de la Recherche et de l'Innovation Pédagogiques et Technologiques, Luxembourg
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Abstract

One of the biggest challenges to educational research and policy is providing relevant information regarding the education system's outcome at different levels. Student outcome indicators are of special interest as obviously this information is a primary criterion for different activities such as teaching assessment, quality improvement programs, evaluation studies, and steering (as expressed by the French word '*pilotage*') the educational system. In the last few decades a major effort was exerted at the international level (e.g. IEA, OECD, EU) to develop student outcome indicators for comparative purposes. The most recent of these enterprises, the Third International Mathematics and Science Study (TIMSS) conducted by IEA between 1994 and 1996, exemplifies the progress that has been made.

In the next decade, a major source of information about education will be provided by a recently launched OECD-study in 26 countries (comprising all EU-countries, except Portugal), PISA (Programme for International Student Assessment). PISA addresses student achievement indicators in the fields of Reading Literacy, Mathematics and Science, together with indicators with respect to Cross-Curricular Competencies (CCC). In comparison with the classic contents of school subjects, CCC gain specific attention in a rapidly changing information society. In the field of CCC special emphasis has been given to 'Problem Solving' (PS) as a very central competence. The need for CCC such as PS indicators is clearly also necessary for studies that extend beyond school age, such as the International Life Skills Study (ILSS) dealing with adult competencies.

All EU countries (and other European countries) participating in studies such as PISA or ILSS recognise that a common European effort in different parts of the studies is desirable. Consistent with this view, a Thematic Network on CC/PS is being created, directed to:

- connect policy needs with expertise and experience. This requires close co-operation between policy-makers and scientific experts;
- bring together experts from different disciplines who are working with different conceptual frameworks. By finding commonalties and enhancing synergy, new concepts and new assessment tools may be developed;
- stimulate and integrate more participation on both the political and scientific levels, with a special focus on South European countries. Ultimately, this shall result in the outline of a larger project on CCC/PS.

10. Work experience as an education and training strategy: New approaches for the 21st century

Co-ordinator:
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http://www.eclo.com

Abstract

The proposal is to analyse and develop work experience as a European education and training strategy appropriate to the changing economic and social conditions of the 21st. century. Its context is the future and changing nature of work. Overarching questions concern the extent to which work experience can enable young people to understand and prepare for working life and the ways in which educational institutions and companies can work together creatively to deliver relevant learning outcomes.

The formal objectives of the project are the following:

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- to undertake a European policy study and review of work experience;
- to develop a common framework and terminology for understanding work experience;
- to undertake case studies of innovative work experience partnerships;
- to compare outcomes and develop transferable models;
- to develop European quality criteria and a quality framework for work experience;
- to undertake an active dissemination programme.

Researchers from the six partner states will work collaboratively in a review of work experience as a vehicle for learning and on a study of current and future policy towards work experience in the 16-19 years age group. The other member states will be asked to join these exercises so as to build up a clear profile at European level.

The research work will focus on the 14-19 age group and will examine the aims, processes and outcomes of work experience in the light of changes in the labour market and trends in workplace requirements and organisation.

The aim is to analyse and test innovative approaches (including use of information and communication technology) to both domestic and European work experience. The methodology will involve researchers, enterprises and leading edge educational institutions working together.

There will be a particular concern with core and transferable skills and attitudes towards lifelong learning and therefore will be a focus on the development of quality criteria and evaluation procedures for work experience which can be applied at a European level.

The project will have practical, theoretical and policy outcomes and benefits. The products will include transferable models of good and innovative practice and will be disseminated throughout the EU and the central and eastern European countries. A series of workshops for key-decision makers will also be organised.

11. Work process knowledge in technological and organisational development

Co-ordinator:
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Abstract

This thematic network is concerned with the impact on the knowledge required of the workforce due to the changes that occur when organisations acquire greater flexibility and introduce new technologies in response to the pressures of competition.

Its main objectives are:

- to identify new working practices associated with these changes;
- to integrate European traditions for conceptualising the ways of knowing needed in the workplace to adapt to these changes – 'work process knowledge';
- to generate and analyse policy options for facilitating the development of this knowledge, including new approaches to learning in the workplace, the design of new technology and organisational development within enterprises.

By elucidating the knowledge required in the working environment, and by integrating European traditions for theorising this knowledge, the project will contribute to the development of a European social science infrastructure.

By developing policy options for facilitating the adaptation of the workforce to new working practices, the project will strengthen European science and technology policy in rela-

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tion to the problem of achieving sustainable growth.

Theme: Enterprises and human resources

12. LATIO: In-company training and learning in organisations

Co-ordinator: Lennart Svensson & Ylva Kjellberg, Lund University, Sweden
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Abstract

The aim of the project is to develop strategies for enhanced competence development in companies in the EU. The research objectives are the follows:

- to describe and compare learning environments in companies active on the EU arena, within a number of sector and branches;
- to describe and analyse current strategies for in-companies training, organisational learning, development of core skills and competencies within these companies;
- to find and lift forward positive examples of conditions that create successful learning in organisations;
- to distinguish what are critical factors for developing new and successful strategies for in-company training, competence development and learning in organisations.

The project is carried out in an ongoing dialogue with reference groups, both at national and international level. The reference groups at national levels consist of representatives of national organisation for in-company training providers, employers federations and relevant trade union representatives.

The project is divided into four major phases:

- theoretical analysis and studies of contextual national factors;
- empirical studies;
- theoretical and practical results;
- evaluation and implementation of results

The practical contribution of the project is to propose structures and strategies that enhance and facilitate the creation of learning environments, and best practice for in-company training and learning organisations.

Publication to be expected:
Final Report: SOE2-CT96-2013 – LATIO – In-company training and learning in organisation, Lennart Svenson – Ylva Kjellberg

13. The role of human resource development within organisations in creating opportunities for life-long learning – concepts and practices in seven European countries

Co-ordinator:
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http://www.eclo.org

Abstract

The objectives of the study are:

- to clarify the specific European outlook on the role which human resource development (HRD) in learning oriented organisations can fulfil in lifelong learning, and thus contribute to the discussion on a 'European model of lifelong learning';
- to provide a basis for further research on the changing role of HRD in work organisations;
- to provide practical guidelines for HRD practitioners throughout Europe on how to facilitate employee learning and thus assist their organisations in securing their competitiveness in a continuously changing environment.

The research looks at HRD departments in learning oriented organisations throughout Europe and how they view their own role in

stimulating and supporting employees to learn continuously as a part of everyday work (with the intent to contribute to organisational learning, and thus to enhance organisational competitiveness).

An attempt will be made to show different perspectives between HRD concepts and practices in European organisations and those which exists in the US and Japan.

The research will go into strategies adopted by European HRD departments in realising their envisioned new role. Consequently the research will analyse the facilitative factors as well as the difficulties (the inhibiting as well as conducive factors) they encounter during the implementation process.

In order to provide practical guidelines, the research aims to analyse how practitioners cope with these (inhibiting and conducive) factors.

To enhance the impact of the research, it is intended to publish (additional to the overall report and the case study report) a practitioner's guide. Furthermore, the results can be used in the ongoing discussion on the European 'infrastructure' for lifelong learning.

Publication to be expected:
Final Report: SOE2-CT97-2026 – The Role of HRD within Organisations in creating opportunities for Life-Long Learning: Concepts and practices in seven European Countries, S. Tjepkema

14. DELOS – developing learning organisation models in SME clusters

Co-ordinator:
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Abstract

The research intended to offer a methodological contribution and operative instrument in favour of E&T and employment policies. Although European SMEs account for 71% of European employment they are unable to formulate detailed training strategies which can guarantee qualification adjustments and increased competition. Hence the need to focus the research on small-firms network (clusters) which represent privileged observatories for the analysis of employment and learning dynamics.

Considering the 'clusters' as a learning organisation permits, methodologically, to analyse the information flow and the interactions which, in the cluster, give rise to circular processes of competence acquisition, shared know-how, experimenting and progressive correction of collective intervention. In relation to SME clusters it is the group of SMEs, which acts as the Learning Organisation. It is the aggregation of SMEs on the whole which reacts to challenges of change by adapting in terms of technological professional updating, new professional skills, new service needs, new market strategies. The path followed by the 'organisational learning' is complete in the SME cluster circuit, but instead of taking place within one large company, it takes place in a number of enterprises and also involves a number of different bodies (companies, associations, training institutes, etc.). The 'interorganisational' learning processes which develop in the SME clusters have not yet been systematically studied from the point of view of implications of collective learning, shared development of knowledge and intervention models. Indications and ideas for further research come from studies on the dynamics of interorganisational collaboration in technological innovation processes, or from surveys describing aspects of entrepreneurial learning processes during the occasion of co-operative initiatives on topics such as, internationalisation.

It is opportune to focus attention on the distinct characteristics and on specific organisational learning processes, which arise through co-operation between SMEs, so as to clarify their nature and to build support methodologies to increase conscious interventions on these issues.

The project objectives therefore are:

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- verify the modalities through which the SMEs clusters intervene as learning organisation and investigate the organisational learning processes that arise through clustering;

- give 'working' indications capable of supporting training and occupational policies in favour of SMEs methodology.

After a preliminary scouting phase, through an ad hoc methodology, 12 different clusters have been analysed throughout six different countries. Finally, the modelling phase provides to rationalise the overall results.

Final Report:
DE.L.O.S. Project – Developing Learning Organisation Model in SME Clusters. November 1998

Publication:
Final Report: SOE1-CT95-2007 – DELOS project – Developing Learning Organisation Model in SME Clusters, R. Sarcina, 1998, 128p (TSER008)

15. Small and medium enterprises in Europe and East Asia: Competition, collaboration and lessons for policy support.

Co-ordinator:
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Abstract

This two year study evaluates the competitiveness of European SMEs vis-à-vis their counterparts in East Asia (Japan, Korea and Taiwan), using enterprise benchmarking to identify the nature of their technological differences in selected low, medium and high technology manufacturing activities. The project traces:

- observed differences within comparable activities to variations in human resource availability, development and management;

- the strength and relevance of network linkages with SMEs and with large enterprises;

- the nature and sophistication of consultancy and advisory services;

- links with the S&T system;

- the financial system supporting innovation;

- and cross-national, national, local and municipal government initiatives to support productivity, skill development and marketing.

The detailed firm-level analysis and benchmarking allow the identification of 'best practice' models of SME technology development; it also provides data that can be used in statistical analysis to identify rigorously the extent and causes of deviation from the technological frontier. This will clarify the nature of the emerging competitive challenge facing European enterprises from the Asian 'Tigers', and the prospects for fruitful collaboration between them. The analysis of support systems in Asia, which are known to be strong and pervasive, but whose detailed operations are not well understood, lead to policy recommendations for strengthening the science and technology support system for SMEs and improving the efficiency of networks and clusters in Europe. The project creates a data bank on micro-level technological activities studied; this data base can later be expanded to other activities to provide inputs into S&T policy analysis in the EU. Local collaborators in each of the three Asian countries have been selected from local research institutes. The dissemination of results will be undertaken within Europe and Asia.

Publication:
Final Report: SOE1-CT97-1065 – Small and Medium Enterprises in Europe and East Asia: Competition, Collaboration and Lessons for Policy Support, M. Fransman, 113p, 2000

16. Small business training and competitiveness: Building case studies in different European cultural contexts.

Co-ordinator: Alfons Sauquet, Fundación ESADE-Escuela Superior de Administración y Dirección, Spain
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Abstract

The objective of this research is to identify learning processes that lead to increased competitiveness of small and medium sized enterprises (SMEs), and to describe how these learning processes are shaped in different European cultural contexts.

The analysis will be done by selecting and monitoring projects that companies undertake such as project development, technology innovation, environment adaptation, which aim at maintaining or developing sustainable competitiveness.

SMEs are the focal point of this research since learning processes should be relatively easy to identify and observe. In small companies learning experiences sometimes take place without the benefit of any formal training programme. Conversely those who have undergone training might have a relatively high chance of applying what they have learned.

The approach adopted will first build a con ceptual framework of the different factors involved in the countries participating in this project. After this phase, the participants will conduct in depth empirical fieldwork within their communities using structured interviews and case studies. The results will be analysed for each country with the purpose to identifying learning processes, their relationship to cultural aspects and the contribution of such processes to building competitive advantage of SMEs especially through networking.

A comparative analysis of the learning processes in different countries building on case studies will be undertaken to identify best practice at both the national and European level.

The outcomes of the analysis is aimed not only at SMEs themselves in demonstrating how they can build competitive advantage through networking but also it is addressed to policy-makers active in this area.

17. SME policy and the regional dimension of innovation

Co-ordinator:
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http://www.step.no/info/Projects/Projects.html#Reg

Abstract

The SMEPOL (SME policy and the regional dimension of innovation) was a collaborative activity including seven research institutions in Europe. The project evaluates almost 40 existing policy instruments of promoting innovation activity in SMEs in 11 regions in eight European countries in order to identify 'good practice' policy. The aim is to construct a sound and organised knowledge base about existing practices, qualify their appropriateness and efficiency in order to identify 'good practice' principles, in a relative sense, and help to see how they can be adapted to other environments and situations.

In order to achieve this objective the project consists of four work packages:

1. the objective of the first work package is to establish a sound theoretical basis and a common analytical framework in the research group, in order to obtain comparability between the single evaluations of programmes and politics carried out in the project. The theoretical framework is based on the concepts of the interactive innovation model;

2. work package two contains evaluations of selected policy instruments in regions in eight countries to identify best practice policy in each case. The instruments to be evaluated reflects both linear and non-linear innovation models, endogenous and exogenous policy approaches, and sector

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specific and non-sector specific policies on regional, national and EU policy levels. The evaluation studies have the same main questions and horizontal themes, use the same theoretical framework and similar methods;

3. work package three pools together material from the region and country specific evaluations. The different policy instruments and regions are classified according to a taxonomy developed in the project, and best practice policies will be analysed for different regions and instruments;

4. the objective of work package four is to produce a consolidated synthesis report and organise seminars and workshops aiming at policy makers at EU and national level. Workshops in each country or study region are also arranged during work package two.

SME innovation support policies in the EU regions, thus, could substantially be improved by three key principles:

1) Matching the context and SME needs' with the policy tools in each region.

2) Confronting the policy tools with the lessons and theory and practice.

3) Comparing results achieved with a range of policy instruments in different environments.

The SMEPOL project gives concrete inputs on all these principles. However, achieving progress in this direction would be best handled through the involvement of policy makers themselves, in benchmarking and evaluation exercises. One salient element of the conclusion is therefore the need for more 'policy intelligence' in this complex field, that is why at the end of the project a seminar will be organised involving policy makers and other end users.

Publication to be expected:
Final Report: SOE1-CT97-1061 – SME Policy and the Regional Dimension of Innovation. A. Isacksen. 2000

18. Self employment activities concerning women and minorities: Their success or failure in relation to social citizenship policies

Co-ordinator:
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Abstract

The project focuses on the evaluation of social citizenship policies in relation to self-employment activities implemented by member countries of the European Union. Those policies examined which aim to promote self-employment as prominent active social integration strategies, targeting to women and minority groups, as groups most likely to be threatened by exclusion and also as groups with a growing propensity towards self-employment.

The research is based upon the explicit hypothesis that active social integration policies aiming at the promotion of self-employment of unemployed women and migrant minority members can only be successful if their specific socialisation under unstable biographical and work conditions is recognised and compensation is provided for their discontinuous working careers. The empirical methodology of this project will challenge this hypothesis through the systematic collection of life-histories and work-histories from samples of women and migrants who participated in programmes geared to active social integration. These samples will be matched with samples of migrants and women who have become successfully self-employed without benefit of these programmes and policies.

The project want to establish an European-wide research infrastructure with the instruments of a common database and software training in qualitative data analysis. Policy makers and administrators will be equipped with well grounded answers for questions arising by the development of consultation and training programmes.

1523

Theme: Employment and the labour market

19. Educational expansion and labour market (EDEX)

Co-ordinators:
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Abstract

The main objective of the EDEX research programme is to examine the effect of the substantial increase of high education workers on the functioning of the labour markets in five European countries: Germany, Spain, France, Italy and UK. The analysis takes also into consideration the comparison between Europe and the USA, where the education is regulated, more than in Europe by the study fees.

The research describes the trends of the different national systems in terms of training and employment; explores the reactions of the enterprises vis-a-vis the improvements in the level of education; and tries to prepare an analysis for the medium-term.

The project comprises five stages, of which the first three, i.e. analysis of the educational structures; analysis of the distribution of qualified people in the labour market; and, analysis of the employers' reactions; are preliminary to the fourth one, in order to establish the scenarios for the evolution of the job-training system; Finally the fifth one represents the summary of the main findings.

Every stage results into six reports of comparative international analysis. Each report will be discussed in the network international meeting, which will also be open to external partners such as academic experts, national and European policy makers, training experts and representatives of the enterprises.

20. Full employment in Europe (thematic network)

Co-ordinator:
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Abstract

The general objective of this thematic network's project is to re-introduce and substantiate the concept of full employment into the economic policy discussion in the European Union, on the Community as well as on the national and regional/local level. More specifically this includes the following three sub-objectives:

1. the development of an analytical understanding of the endogenous and external reasons, why full employment has been widely abandoned as economic policy goal;

2. the elaboration of the necessary modifications and differentiation's which must be made in a full employment strategy in contemporary Europe as compared to the three decades after World War II;

3. the concretisation of the instrumental and institutional side of an appropriate full employment strategy as a multi-layered policy on the European, the national and regional/local levels, paying particular attention to the mutual links between the different levels.

The thematic network will proceed in four working groups (WGs).

1. In the first WG the conceptual, historical and institutional dimensions of full employment and the development of these dimensions since World War II will be explored, taking into account the far-reaching changes of the structure of the workforce as well as of the international competitive environment.

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2. The second WG deals with the macroeconomic requirements for a sustainable strategy for full employment including, apart from well-established fields like monetary and fiscal policies, also questions of income distribution and of ecological requirements.

3. In the third WG the role of working time arrangements in a strategy for full employment will be discussed; this includes the analysis of different models of working time arrangements in various countries (e.g. the Netherlands, the United Kingdom, Germany et al.).

4. The fourth WG thematises structural aspects of full employment policies. It will firstly deal with regional policy in the EU on a national and on the European level. Secondly the field of technology policy will be addressed.

The thematic network organises working group meetings to which interested experts will be invited and public annual conferences which will discuss and synthesise the findings of the working groups. Intermediate papers of the working groups and the results of the network will be published.

Report:
Full Employment, Solidarity and Sustainability in Europe. Old Challenges, New opportunities for Economic Policy. November 1998.

21. TRANSLAM – social integration by transitional labour markets: New pathways for labour market policy

Co-ordinator:
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http://www.wz-berlin.de/ab/projects.en.htm#Project

Abstract

This project aims to develop a theoretical analysis of the nature of transitional labour markets, including the types of transitions which occur under different institutional arrangements, and performance indicators on an aggregate level for social integration and exclusion.

In this framework the main aims are as follows:

- to examine the transitions provided by flexible working time arrangements, in particular part-time work;
- to evaluate active labour market policies in terms of their capacity to prevent social exclusion and to support social integration;
- to examine the performance of education and training systems with regard to the provision of basic skills and competence, as well as access-inequalities to education and training, over some length in a person's educational and occupational trajectory.

The project gives rise to the appearance of four publications:

a) 'Social integration by Transitional Labour Markets, Theory and Evidence'

b) 'Social Integration and Working Time: International comparisons of part-time work'

c) 'New Pathways for Active Labour Market Policy'

d) 'Training and Human Capital Investment: Prevention and cures for Social Exclusion'.

A conference was organised in November/December 1998 to present and discuss the chapters of these publications.

Publication:
Final Report: SOE1-CT95-3007 – TRANSLAM – Social Integration through Transitional Labour, G. Schmid, 1999, 37p (TSER034)

22. Innovations in information society sectors – implications for women's work, expertise and opportunities in European workplaces

Co-ordinator:
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http://www.ted.ie/erc/Servemploi/index.htm

Abstract

The project examines the key innovations implemented in eight countries (Britain, Denmark, France, Germany, Ireland, Spain, Italy and Sweden) in the retailing and financial services sectors. It should do this through two interlinked research activities in: each country: case studies of retailing and financial services firm, examining the work performed, the expertise deployed, and the personal development prospects enjoyed by female non-managerial employees; and a longitudinal study of selected women moving within firms, between firms, into or out of employment, or becoming self-employed.

The main objectives were:

- to examine the patterns and dynamics of innovation operating in two sectors of the Information Society: retailing and retail financial services;
- to investigate the significance of these innovations as part of the emerging European Knowledge Economy, specifically for the work done and knowledge content in the work of female employees in these sectors;
- to assess the opportunities for these employees to develop and utilise expertise in their work in the context of these patterns of innovation;
- to assess their consequent 'employability' and opportunities for personal development, within firms and beyond them to compare and contrast patterns of change and experiences across member states;
- To compare and contrast patterns of change and experiences across member states.

During the project there will be two European 'employment roundtable' as well as a concluding policy conference. These will involve representatives of social partners from the two sectors. The roundtables will be based on the findings of the project up to that point and the discussions will feed into the ongoing work of the project.

23. New forms of employment and working time in the service economy

Co-ordinator:
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Abstract

The overall objective of the project is to analyse the effects of new forms of employment and working time in the service sector and service activities on the opportunities for a redistribution of work likely to promote employment.

This project covers ten European Union countries: Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Portugal, Sweden and the United Kingdom.

Its quantitative parts include the analysis of data relating to the diffusion of new employment and working time forms in the individual service industries, i.e. deviations from the traditional permanent, full-time employment relationship with standardised working time. Data analysis will also include individual working time preferences, broken down by employee category, family structure, income, etc., as far as possible.

The qualitative parts include case studies which will help to identify basic industry and activity specific reasons for the emergence of certain new forms of employment and working time in selected service industries and

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activities. Selected examples of innovative policy approaches and their practical implementation on the establishment level shall be covered.

The final analysis will tackle the question of what new opportunities for the collective regulation of individual working time preferences are emerging.

24. The strategic role of knowledge-intensive services for the transmission application of technical and management innovation

Co-ordinator:
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Abstract

This thematic network has brought together organisations from nine member states of the EU to undertake a collaborative exchange of understanding about the contribution of knowledge-intensive service consultancies to the commercial competitiveness and growth of client organisations in different sectors, types and sizes of firm, and core and peripheral regions. A series of interim reports, arising from each work package, have examined the application of this understanding to economic policy, especially as applied to the promotion of technical and organisational innovation.

In targeting areas of policy, it has addressed:

1. The impact of the international integration of European service markets on the availability of consultancy expertise to clients in different parts of the Union.

2. The diversity of national experience, including the significance for consultancy activities of variable regulatory and corporate regimes, patterns of business organisation, including the corporate use of in-house expertise and the position of SMEs, and prevailing patterns of consultancy supply.

3. The degree and patterns of regional inequality in consultancy provision and use, their causes, and their significance for public agencies wishing to enhance regional technical and organisational innovation and competitiveness.

The outcome of the thematic network is a policy-orientated analysis of best practice in the employment of consultancy skills to support technical and organisational innovation, taking account of the needs of various sectors, large and small-medium enterprises, and the work of public agencies in different nations and regions. Proposals are made for further research into the changing corporate context of technological and managerial innovation involving growing consultancy inputs. The work programme of the network over 18 months consisted of five sequential work packages: each focused around a workshop. Four (work packages 1-3; 5) are based on international meetings among the participants, and one (work package 4) took place simultaneously in each participating country.

Publication:
Final Report: SOE1-CT95-1017 – The strategic role of knowledge-intensive services for the transmission and application of technical and management innovation (KISINN), Peter Wood, 1999, 110p (TSER023)

25. Regional innovation systems: Designing for the future.

Co-ordinator:
Philip Cooke, Centre for Advance Studies in the Social Sciences – University of Wales, UK
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Abstract

The central question of this study concerns the extent to which regional innovation systems could be identified in eleven European regions. The authors have studied regional innovation systems by exploring their differences and similarities, and relating their systemic structure to the contemporary needs of global industrial competitiveness and innovation foresight, and learning capacity. The study has also tried to identify the nature of

the key design elements of institutional innovation network architecture appropriate to supporting the main anticipated innovation needs of regionally clustered firms for the foreseeable future. In order to achieve this goal, the research work focuses on three levels:

1) at firm level – in what ways have conditions for competitiveness and innovation changed? What organisation innovations occur?

2) at institutional level – What changes in policy by private or public institutions occur?

3) at innovation and technology policy levels – What kind of support is provided by intermediary and public institutions, how, and is this changing?

The policy objectives were:

- to provide policy-makers information of good practice for enhancing regional growth projects;
- to help policy-makers assess different kinds of European regional innovation practices and to judge their tendencies towards convergence or divergence;
- to stimulate learning effects regarding transfer of endogenous innovation potential for sub-national and EU policy-markers;
- to raise awareness of the need for new or adjusted EU and other programmes.

Five workshops (month 1, 6, 10, 18, 23) have been implemented for the preparation of each workpackage and presentation of the final report.

Publication:
Final Report: SOE1-CT95-1010 – REGIS project – Regional Innovation Systems: Designing for the future. Philip Cooke, 1998, 125p. (TSER013)

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Theme: Transitions and social exclusion

26. European panel analysis

Co-ordinator:
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Abstract

The panel project has two objectives:

1. to produce a comparative European longitudinal micro-database on employment, income and social protection, living standards and family or household circumstances, combined other European panel materials to extend the topical coverage and historical range and also to negotiate with the responsible national authorities, in partnership with Eurostat, for release of these data-sets to other researchers;

2. to use this database in the investigation of a number of issues concerning:

- the nature and dynamics of social exclusion and integration, and their causes and consequences;
- specifically examining and seeking to explain similarities and variations among European countries in terms of: the pattern of household income stability or instability over time; movement into and out of different forms of employment status; formation, growth, diminution and dissolution of households.

27. A comparative analysis of transitions from education to work in Europe (CATEWE)

Co-ordinator:
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Abstract

European countries vary widely in their education and training systems and in the factors shaping transitions from initial education to the labour market. To date, no comprehensive research exists on the nature and consequences of this variation in education to work transitions across Europe. The objective of this research is to develop a more satisfactory framework for understanding transitions in the different European systems and to use this framework to analyse the factors affecting success and failure in education/ training outcomes and labour market integration in the different countries.

This project will be the first major comparative study focusing on recent developments in school to work:

- transition processes across a range of European countries. The project will use a particularly rich source of data on transitions, regular school leavers' surveys in Ireland, Scotland, France and the Netherlands, and will place these data in a broader European context by drawing on the Labour Force Survey. Together, comparative analyses of these two sources of data will significantly advance our empirical and theoretical understanding of the relationship between education/ training and labour market systems. It will provide a stronger empirical basis for studying the process of initial labour market entry, the factors influencing successful integration or exclusion, and the interaction of these factors with institutional and societal variables. The improved understanding of the diversity of education/ training systems and their relationships to labour markets is indispensable for more successful needs assessment, policy planning and implementation of policies on a cross-national basis. In this sense, the results of the project will help to

- underpin the development of more effective education and labour market policies which fit the varying contextual conditions across Europe. Only precise knowledge of the specific mechanisms through which various groups become advantaged or disadvantaged in the labour market can lead to the development of more effective policies which are appropriate to the varying conditions in different countries. At a more practical level, the project will directly contribute to the OECD's current Thematic Review of the Transition from Initial Education to Working Life. In addition, the project will develop existing cross-national data sources on school leavers, encourage the greater harmonisation of national transition surveys and facilitate the expansion and standardisation of data collection in other European countries.

28. Schooling, training and transitions: an economic perspective.

Co-ordinator:
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Abstract

The research is about schooling, training and transitions at various points of an individual's life cycle.

The primary objective of this research is to bring together the work and experience of European economists who have contributed to the field of education and training. Its aim is to exploit the wealth and diversity of European institutions and data to develop further an expertise in comparative analysis and a deeper understanding of the mechanisms which have shaped schooling and training systems, and labour market transitions (from school to work, and from job to job), somewhat differently across countries.

The research incorporated these new developments by looking precisely at the production of established knowledge and skills, their allocation to individuals and jobs, and how well they fit together in each society depending on its specific institutions and other relevant characteristics. Special attention focused on the high school and undergraduate

level because most of the tensions generated by the regulation of schooling systems and labour markets seems to lie there nowadays.

A theoretical and empirical investigation of three related topics should be achieved:

1. a comparative analysis of schooling systems;

2. the transition from school to work;

3. training and labour market flexibility.

The economic equilibrium approach is based upon the idea that quantities, like the number of students or of trainees, for example, and prices, like wages, result from the comparison of a market demand. Depending on the question under consideration, the kind of market assumed in the analysis may vary from perfect competition to heavy institutional regulation (as is the most often case for education). This framework offers an aural way of understanding the interactions between the schooling system (supplier of education), the learning organisation (which demands specific skills and supplies training), and the individuals (demanding for education and supplying the skills) whose transitions reveal the costly adjustments that took place to match the supply of education and training with the demand for skills.

The aim of the research is to develop a good European expertise of education and training systems (first topic), gather comparable data and make some policy evaluations on transitions from school to work and from job to job (second and third topics) and give some new theoretical insights on institutions and labour markets.

Publication:
Final Report: SOE2-CT95-2012 – Schooling, training and transitions: an economic perspective, C. Sofer, 2000, 116p

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29. Enhancing the participation of young adults in economic and social processes: Balancing instrumental, biographical and social competencies in post-school education and training

Co-ordinator:
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Abstract

The overall objective is to generate a more comprehensive understanding of the potentials and limitations of current approaches to post school education and training for unemployed youth and young adults.

In this line of thought, the main objectives of the research are the following:

a) to explore the different kinds of assumptions that give direction to the actions of educational policy makers, educators and participants involved in schemes aimed at (re)orienting or integrating young adults (in) to the labour market;

b) to identify ways in which particular educational practices, in the context of particular socio-political, economic and cultural contexts, impact (or not) upon how young people construe their choices and opportunities for social and economic inclusion and exclusion;

c) to extend current understanding of the experiences and perspectives of socially differentiated groups of unemployed youth/young adults with regard to education and training programmes that seek to widen choices and opportunities for participation in social and economic processes;

d) to illuminate how the assumptions that give direction to the actions and choices of policy makers, programme investors and designers, and educators/trainers may be understood and acted upon from the perspective of young people;

e) to consider how, in the different regions involved, balances between skills-integration, social integration and biographical integration do or do not come about and to explain how these may relate to structural, economical, historical and cultural particularities and policies of the regions;

f) to generate and further develop innovative educational concepts and practices which will address the social and biographical dimensions of economic participation and exclusion.

The project will juxtapose and explore the espoused aims and assumptions about 'education and training effectiveness' amongst those who are responsible for educational programmes, and investment therein, with the different ways in which their choices, practices and messages are being understood and negotiated in the life-world of the learners. The project is situated within a framework of assumptions about research quality, ethics and rigour that combines features of collaborative action inquiry and participatory research, with narrative, life history and case study research. It places an emphasis on research with, and not on people, and it builds on developments around the use of narratives and participatory action research in the context of situated case studies, as a reaction to overly deterministic reproduction theories of schooling.

30. Employment and exclusion (thematic network)

Co-ordinator:
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Abstract

The principal objective of this research is to compare results from various countries on the links between different types of employment and 'exclusion', to control for the effect of key variables, and to identify approaches that will assist policy-makers tackling social exclusion.

There is now considerable data available on different types of employment and their evolution, while exclusion has also been widely studied in Europe. However the articulation between these two remains problematic, and it is very important to understand better how and why different types of employment, particularly precarious employment, leads to exclusion. International comparisons on linked themes suggest that this articulation varies according to the country; it also varies depending on individuals' gender, age, national origin and level of educational attainment.

Access to social protection is at the heart of the process of exclusion. We are therefore particularly interested in this aspect. From this angle we wish to examine the extent to which different degrees of access to social security systems relate to the employment context; contexts which range from the long-term unemployed to those in the most stable and best paid jobs. The same issue is posed by issues of access to old age pensions.

The understanding of the articulation between different types of employment and exclusion will allow to reply to a series of questions that are rarely considered when thinking about exclusion, and which suggest the existence of many connections between research domains that are generally developed separately.

These questions concern how legal and collectively agreed definitions of work regulations, the significance of government policy and the effect of restructuring and of sectoral changes impinge on the mechanism of exclusion, and also whether qualifications play a part in structuring employee attitudes towards precarious atypical jobs.

31. Globalisation and social exclusion

Co-ordinator:
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Abstract

The principal objective of this project is to determine the role played by international

trade in influencing the employment and relative wages of unskilled workers in Europe. This task will be undertaken using a combination of data analysis, econometrics, case studies and simulation modelling and will take account of differences in industrial structures, social policies and technological change and labour markets and labour market policies in individual EU member states.

The project will investigate how firms and industries in Europe have responded and adjusted to increased international competition from low wage economies. The implications of this analysis for the design of appropriate strategies for responding to future supply surges of low-skill products onto European markets from low-wage economies will be fully explored.

A key element of the project will be the collection of the most suitable data on trade, industrial characteristics (output, prices, investment, employment, wages), technology, labour market structures and national tax and social policies. These data will be collected together and made available as a single database.

The results of the project will be widely disseminated, in the first instance via the discussion paper series of the participating institutions, and later through conferences for both the academic and the policy-making and business communities.

32. Growth, inequality and training

Co-ordinator: David Ulph, University College London, Centre for Economic Learning and Social Evolution, UK
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Abstract

The aim of this project is to provide a better understanding of the interaction between growth, innovation, R&D and inequality. It will do this through developments in economic theory, and through a comparative international empirical investigation of the experience and performance of a number of carefully selected EU and non-EU countries.

The main objectives of this project are the following:

a) To extend the recent discussion of the changing distribution of skills and wages in the workforce by incorporating both demand-side and supply-side factors.

b) To look, on the supply-side, at both the evolving distributions of the supply of skills in different countries, but also the factors that determine the acquisition of skills, and hence the responsiveness of skill supply to technology shocks.

c) To provide a coherent intellectual framework in which to understand the links between growth and inequality.

d) To provide a systematic analysis of policies that can enhance long-run economic performance, where the measure of performance will encompass both growth and distributional considerations.

e) To undertake all the above analysis at macro, meso and micro level, through a combination of theoretical, econometric and case studies.

33. Information society, work, and the generation of new forms of social exclusion

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Abstract

The central question in this project is: 'What are the social but also the micro-economic implications of the emerging information society?', and the principal aim of it is to find an answer to this question. It focuses on developments in the domain of companies, assuming that the informatisation of work is a key factor behind the emergence of information society.

1532 BEST COPY AVAILABLE

The project represents a break with traditional technological determinism as it is based on a 'bottom up' approach, analysing the concrete processes of building up an information society by implementing modern information and communication technologies within companies and in inter-organisational networks. This will shed light on the possible emergence of Europe-specific ways to an Information Society.

'Technological practice' is used as a key concept; this describes specific ways of embedding information and communication technology applications into organisational forms and cultural patterns. The project will analyse the development process of such technological practices in different intra- and inter-organisational fields, including co-operation within work groups up to regionally based networks of companies and supporting institutions. It will further investigate the ways emerging technological practices within companies are influenced by and exert influence over the institutions of regional and national environments. It will also analyse the social and micro-economic implications of different technological practices. As regards social implications, the project will focus particularly on the aspect of social exclusion and integration. In the project a mix of different methods will be applied including case studies, secondary analysis of existing data sets, a company survey, and a comparative analysis.

Based on the results of the research project an answer can be given to the question whether a common European model of information society is emerging, or whether different countries follow different paths into the information society.

34. Labour demand, education and the dynamics of social exclusion

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Abstract

The project will explore the post-1970 effects of technological change and market integration on the demand for labour with different levels of education and skills, and on unemployment and the process of social exclusion across Europe.

The proposed research has the following key objectives:

a) to analyse the effects of technological change on the demand for labour in terms of education and skills;

b) to develop new indicators of 'social exclusion' and new analytical techniques to explore the dynamics of exclusion for problem groups;

c) to investigate how different labour market, educational, immigration and social policies have moderated this process;

d) to suggest alternative policy directions.
Brief description of the research project.

The project is designed to test a specific and highly important hypothesis: that social exclusion can be regarded as a step-wise and potentially reversible process. The analysis will therefore, emphasise the processes of exclusion and inclusion, not merely the characteristics of those already excluded or included. This has important policy implications, since it allows for the possibility that exclusion can be halted and even reversed. New indicators will be designed to take full account of the multidimensional nature of social exclusion: these measures will reflect not only income and labour market outcomes, but also other aspects of exclusion such as housing, access to public services, crime and health.

In order to analyse the above issues, a number of explanatory variables will be used. These

will include, on the supply side, factors such as work skills, number of years of labour market experience, education, language skills, age, gender, cultural factors (including religion), urban experience, and social background (family characteristics); and, on the demand side, variables representing factors such as economic structure (qualifications, 'ethnic' jobs, etc.), degree of market integration (the 'EU effect') and business cycles.

Institutional factors will be taken into account through an examination of immigration and integration policy, labour market and unemployment policy, and policies for education and vocational training.

35. New employment opportunities in the third sector. An evaluation of innovative policies for social integration in Europe (NETS)

Co-ordinator:
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Abstract

The aim of this project is to identify the contribution to social integration and employment creation in Europe which may come from what (for ease of use) is called 'third sector' (non profit, socially useful activities also known as 'third system', 'social economy'). Their job creation potential and their ability to address new needs will be assessed, and alternative policy actions will be evaluated, considering their economic efficiency and effectiveness, and the impact on social integration.

The survey will be carried out in three European countries – Germany, Italy and Spain – representative of the different problems and institutional frameworks present in the European Union. The results of the surveys will be combined with information from the sources already available and with in-depth interviews to major player and policy makers in the field.

A database containing empirical data will be produced for both researchers and policy makers and a wide audience book will be published. During the project a strong interaction is envisaged between researchers, representatives of third sector organisations and policy makers at the national and European level in order to assure consideration of all contributions to the policy debate and the widest dissemination of the results of the project.

Publication to be expected:
Final Report: SOE2-CT97-3046 – New Employment Opportunities in the Third Sector: An Evaluation of Innovative Policies for Social Integration in Europe (NETS), M. Mellano

36. Technology, economic integration and social cohesion

Co-ordinator:
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Abstract

The project aims to provide insight into the impact of several important and interrelated developments on social cohesion and exclusion in the European Union. The issues analysed are:

a) Technological change as the single most important factor shaping the quantitative and qualitative dimensions of the fundamental economic factors influencing social cohesion, such as employment and economic growth;

b) Globalisation, broadly driven by technology (e.g. telematics) and by the liberalisation and deregulation of trade and capital flows. This globalisation trend leads to qualitative changes in the form and effects of the exposure of countries to foreign competition, not only in the form of trade, but also through increased foreign direct investment flows.

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The project discusses a number of implications for different policy areas at the European level. With regard to macroeconomic policy, it is suggested that the EU economy is now well placed to adopt a more expansionary economic policy. The key point, however, is that a policy framework in which decisions affecting the demand-side are taken without considering the supply-side will be less effective.

With regard to the regulatory system, it is argued that especially in the emerging areas of ICTs and biotechnology, the early adoption of appropriate standards and the manner in which regulations are framed can have a crucial impact on the pace at which the industries develop.

Europe needs to adopt a wider and more inclusive definition of science and technology policy than in the past. EU sponsored Framework Programmes have played a useful part in financing and encouraging specific scientific research. Little effort has, however, gone into promoting capability amongst 'users' of ICTs and in providing a social and institutional setting that encourages their implementation.

With regard to labour market policies, the project follows a twin strategy of targeting those occupations or professions which support competitive advantage in order to boost economic growth, while having a separate strategy for job creation aimed at cutting unemployment. It is hard to avoid the conclusion that the bulk of new jobs must come from expansion of personal services in areas such as care.

It is evident from the project that in responding to the challenges of the new knowledge economy, many policy areas are asked to give directly or indirectly a significant contribution. Therefore, there is a need for more intra-European policy co-ordination both between different sector policies and across different territorial areas. In other words, important policy issues arise in determining the level at which policy should be implemented so as to be the most effective.

Publications:
Final Report: SOE-CT95-1005. Technology, Economic Integration and Social Cohesion, B. Verspagen, 2000.

Studies: TSER004. The globalising learning economy: Implications for Innovation Policy, BA, Lundvall- December 1997

37. Youth unemployment and processes of marginalisation on the Northern European periphery

Co-ordinator:
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Abstract

The main aim of this project is to develop a clearer knowledge of processes of marginalisation affecting young people through comparative research among the countries within the northern European periphery. The research will highlight strategies and processes, which protect against marginalisation, as well as trajectories, which carry a high risk of subsequent unemployment.

In order to conduct this study, representative sample surveys are carried out for between two and three thousand young people in each of the seven countries (Denmark, Finland, Iceland, Ireland, Norway, Scotland and Sweden).

Representative samples will be drawn from national unemployment registers in each country with eligible respondents defined as young people between the age of 18 and 24 who have been unemployed for a period of at least three months over the previous year. The samples will therefore consist of young people with a variety of work histories that, at the time of the interview, are located in a full range of positions inside and outside of the labour market. This survey design will allow a comparison of young people with unemployment experience some whom have managed to establish positions in the full time labour market, others who have re-entered full-time education and others who

have remained unemployed, withdrawn from the labour market or become marginalised in some other way.

Publication to be expected:
Final Report: SOE1-CT96-3025 – Youth unemployment & processes of marginalization on the Northern European periphery, T. Hammer

38. Youth unemployment and social exclusion in Europe

Co-ordinator:
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Abstract

The main objective is to study how different welfare strategies and fiscal structures in different countries influence the risk of social exclusion among unemployed youth. The following research questions can be identified:

a) Do non-standard forms of labour force participation, such as part-time or temporary work or work in the informal economy, represent a step towards social exclusion and labour force marginalisation or can they be regarded as a step towards permanent work careers?

b) Comparative data will enable us to study young unemployed probability of entry to post compulsory education in countries with different educational systems. What are the proportion of unemployed youth that return to education, and what kind of factors seems to influence such careers?

c) How do different welfare strategies with mixes of public (insurance systems) and private (family) support influence job chances of youth unemployment in different countries?

d) To what extent do unemployed youth feel integrated in their society and how does this impact on the rights and responsibilities of citizenship? Are unemployed youth excluded politically in the sense that they do not participate or engage themselves in politics, and what kind of political attitudes do they have?

e) Previous research has revealed large differences in work ethics or work involvement between European countries. What is the relationship between stigmatisation, mental health, and work involvement and job search activity?

f) The project will also analyse young peoples' experience with different measures in a comparative perspective, and assess the extent to which such measures increase job chances or return to education.

In each of the countries involved, researchers will disseminate findings widely among practitioners and within the academic community continuously through the project period. The project group will also give priority to keep in contact with practitioners and national government's ministries , and other interested parties to be able to provide information about main research results which have implications for policy. A European conference of youth unemployment involving both policy makers and the research community will also be arranged at the end of the project.

39. Youth unemployment and social exclusion

Co-ordinator:
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Abstract

The project aims at empirical research on the causes and key mechanisms of social exclusion, and among them, especially unemployment. The empirical research work in six European countries is, on the one hand, dedicated to different national problems of youth unemployment, and on the other hand follows different scientific orientations and methodologies, namely sociological, psychological, psychiatric and cultural.

1536 BEST COPY AVAILABLE

This project will be undertaken on the vulnerability of specific groups of young people and on the processes and stages of social exclusion often associated with unemployment.

The project aims to identify critical steps in the process of victimisation in order to formulate social options counteract it; it follows the concept of victimisation on three levels:

1. the loss of social features connected with employment;
2. the experience of continuous exclusion from paid employment with accelerating 'daily hassles';
3. the selective evaluation of the unemployed by their social surroundings.

Each partner contributes specific expertise to the project. In particular, the partner from a public health institution will study self-perceptions of shame associated with financial difficulties, and. the partner from a university hospital will research attempted suicide (the most radical form of self-exclusion from society). Other partners will focus on labour market factors (the weak bands of the labour market for youth), and the cushioning effect of the informal economy – which is for many young people the only entrance to the labour market. A number of issues will be addressed such as the relationship between family support and control. A more psychological approach is to identify the stages of victimisation.

The project is carried out in three phases which are terminated in common workshops, at which the results and contributions from the six countries will be compared and discussed:

1. the definition of concept of social exclusion: analysis and description of the forms it takes in the six countries;
2. empirical research (data analysis and qualitative interviews) with different socially excluded groups or groups-at-risk;
3. the identification and evaluation of innovative options of institutional and political intervention and counteraction.

Publication to be expected:
Final Report: SOE2-CT97-3051 – Youth Unemployment and Social Exclusion, T. Kieselbach

40. Education and training, new job skill needs and the low skilled

Co-ordinator:
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Abstract

The quality of the skills of EU citizens is crucial for the European productivity. Thus is a top priority for European governments is to ensure that every young person gets at least a basic level of skill, and that disadvantaged adults have reasonable opportunities to make up lost ground.

The purpose of the project was to contribute to the basic framework for the design of these policies. The first step was to document what is happening and to diagnose its causes. This involves a clear analysis of what is happening to labour demand, as well as an understanding of why the pattern of supply does not always respond adequately (inadequate student motivation and institutional constraints). The next step was to distil from this experience what are the most effective ways for developing the necessary skills-both in terms of curriculum and teaching methods (including the newest technology). The aim was to work towards defining a Europe-wide definition of the 'platform for learning ' with which every European citizen should be equipped.

The project brought together an interdisciplinary team of economists and education specialists from five EU states: the United Kingdom (UK), France, (FR), Netherlands (NL), Portugal (PR) and Sweden (SW) and the programme of work consisted of four specific studies as follows:

1537

1. the demands for labour by skill in the EU (FR, SW)

2. the factors determining the supply of and demand for labour by skill in the EU (NE, UK)

3. the profile of education and training provision at the basic level in the EU (PR, SW)

4. Defining a minimum learning platform for the EU (NE, UK)

Methodology work on these areas was led by one or more researchers from one of the five participating EU states (indicated by abbreviations above), and all project participants were involved in the investigation of date sources, in the collection of data and in the work defining a minimum learning platform. The team produced improved datasheets linking earnings, qualifications and employment using labour force survey and similar surveys and to analyse their interaction over time. The relative significance of a number of factors influencing supply of and demand for skills have been analysed and assessed using, among other sources, data from the OECD Adult Literacy Survey. The profile of educational provision at the basic level was investigated at the level of curriculum content, pathways and progression for young cohorts. Work on the minimum learning platform involves an extensive literature survey, consultation with governments, employer and employee representatives and field work samples of companies.

Summary:
New Job Skill Needs and the Low-Skilled. Eugenia Kazamaki Ottersten, September 1998.

Publication:
Final Report: SOE2-CT95-2006 – Low Skills: a problem for Europe, Steven McIntosh & Hilary Steedman, 100p.

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41. Changing working life and training of older workers

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http://www.nvi.no/prosjekter/worktow.htm

Abstract

From the points of view of education, training and learning, the research focuses on individual and organisational effects, needs and opportunities emanating from the intersection of two trends: the ageing of populations and the changes in working life.

The key objectives of the research project are:

a) to investigate the extent to which the knowledge, skills, experience and attitudes of older workers (45+) can be recognised, valued and utilised in work and learning situations;

b) the ways in which older workers learn within work settings;

c) the extent to which human resource development (HRD) practice and educational interventions involving older workers can facilitate lifelong learning and productivity;

d) the ways in which the diversity of the workforce in these terms can contribute to the development of learning organisations in the work context and, more generally, to the creation of the learning society;

e) through case studies and comparative analysis of good practice in different countries the ways in which the above objectives can contribute to the flexibility and productivity of the European older workforce and to social cohesion generally.

In order to achieve these objectives, cases of work organisations representing different work types (industrial work, office work, service work) in small and larger SMEs are selected in each participating country. The research work (quantitative and qualitative) comprises:

- descriptive studies of knowledge, skills, experience, attitudes, work context and involvement's in formal and informal learning of individual older workers;

- introduction, monitoring and evaluation of work-based education and training interventions and human resource development practices (including some based on use of new information technology);

- dissemination of new knowledge through professional and academic journals, project newsletters, development of materials, scientific and professional conferences and meetings, and through the active involvement of local organisations, social partners and policy-makers in discussions of implementation and strategies.

Summary:
Working Life Changes and Training of Older Workers. Tarja Tikkanen, June 1998.

Publication to be expected:
Final Report: SOE2-CT97-2016 – Changing Working Life and Training of Older Workers, T. Tikkanen

42. Crivet unemployed. The effectiveness of labour market oriented training for the long-term unemployed

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Abstract

This research project concerning the effectiveness of labour market oriented training for the long-term unemployed, focuses on the question of what works and does not work in training for this target- group. More specifically, it focused on the process variables – that is the organisational, curricular and instructional characteristics of training programmes – that might make one training programme more effective if compared with another training programme.

The main objectives of the project were:

a) to develop a set of hypothesis with regard to effectiveness;

b) to test these hypothesis in order to identify the important parameters (e.g. organisational characteristics, contextual conditions);

c) to develop a multilevel model (several parameter model) of effectiveness of training;

d) to investigate and interpret the differences between countries;

e) to develop a monitoring instrument for individual managers of programmes to assess the effectiveness and quality of their own training programme.

The project encompasses the following three stages:

1. *Case studies*. On the basis of an inventarisation and description of relevant training programmes per country, two cases per participating country are selected for this multiple and comparative case study. In the case studies, trainers, (former) trainees and employers (who employ trainees and have participated in the selected training programmes) were interviewed; major issues of the interviews are the characteristics of the training organisation and programme, the experiences with and evaluation of the training programme. The result of the case studies serve the refinement of the developed conceptual model and hypothesis.
2. *Survey Study*. This stage of the study aims at a test of the conceptual model by means of a large scale survey design. Based on the outcomes of the case studies, questionnaires were designed for the collection of data among trainers, (ex-) trainees and employers.
3. *Development of a monitoring instrument*. On the basis of the results of both the case studies and the large-scale survey study, (preliminary) monitoring instruments have been developed for managers of train-

ing programmes; this monitoring instrument should help them in assessing and improving their programmes' effectiveness and quality.

Publication:
Final Report: SOE1-CT95-2003 – Crivet unemployed – The effectiveness of labour market oriented training for the long term (TSER030)

43. Employment precarity, unemployment and social exclusion

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Abstract

This project examines the processes that link employment precarity, unemployment and social exclusion. It involves a comparative research in eight EU countries: Denmark, France, Germany, United Kingdom, The Netherlands, Ireland, Italy and Sweden.

The project focuses on three main issues:

1) the cumulative disadvantages associated with employment vulnerability;
2) the causal relationship between employment situations, economic poverty and cultural and social poverty, including household and social relations;
3) the relationships between the form of the welfare state provision and the extent of cumulative disadvantage/opportunities for re-integration in order to provide theoretical interpretation of the results of the statistical analysis.

The project leads to the provision of standardised variables across a range of national data sets, new statistical tabulations and a set of interpretative papers.

Publication:
Final Report: SOE1-CT95-3003 – Employment precarity, Unemployment & social exclusion, G. Duncan, 2000, 67p.

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This is the background publication of the second report on vocational education and training (VET) research in Europe published by Cedefop in 2001. It contains a number of contributions on current research in the framework of generating and using skills and competences. The basic theories, methodologies and results are presented and the main implications for future research, policy and practice are discussed within each contribution.

Some key issues addressed include:

- steering VET systems, funding and the changing roles of VET professionals;
- learning and training within the context of lifelong and lifewide learning;
- training, employment and development of human resources from a company perspective;
- labour market dynamics and their impact on skills and competences;
- individual performance, social exclusion and transition from education/training to work;
- VET research in selected non-EU countries.

We hope that this publication coupled with the complementary synthesis report, will enhance understanding of research undertaken within Europe and contribute to closer cooperation between researchers and decision makers at all levels.

Pascaline Descy, Manfred Tessaring

EN

volume III

Second report on vocational training research in Europe 2000: background report

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